

**Draft Environmental Assessment,
Regulatory Impact Review,
and
Initial Regulatory Flexibility Analysis
*for a***

**Regulatory Amendment to Adjust Certain
Commercial Atlantic Bluefin Tuna Seasons
and Size Limits**

DRAFT

United States Department of Commerce
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
Office of Sustainable Fisheries
Highly Migratory Species Management Division

October 2003

FINDING OF NO SIGNIFICANT ENVIRONMENTAL IMPACT

The Highly Migratory Species (HMS) Management Division of the Office of Sustainable Fisheries submits the attached Environmental Assessment (EA) for a Proposed Regulatory Amendment to adjust certain commercial Atlantic bluefin tuna (BFT) seasons and size limits for Secretarial review under the procedures of the Magnuson-Stevens Fishery Conservation and Management Act. This EA was developed as an integrated document that includes a Regulatory Impact Review (RIR) and an Initial Regulatory Flexibility Analysis (IRFA). Copies of the EA/RIR/IRFA are available at the following address:

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or

<http://www.nmfs.noaa.gov/sfa/hmspg.html>

The proposed action would implement the following measures:

- Adjust the season start date for the Purse seine category season,
- Adjust the season end dates for the Harpoon and General category seasons, and
- Adjust the Purse seine and Harpoon category size class tolerance limits.

Having reviewed the EA, I have determined that this action would not have a significant impact on the quality of the human environment, thus preparation of an Environmental Impact Statement (EIS) on the action is not required by Section 102(2)(c) of the National Environmental Policy Act or its implementing regulations.

DRAFT
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Assistant Administrator for Fisheries, NOAA

Date

ABSTRACT

Proposed Action:	Amend the consolidated regulations implementing the HMS Fishery Management Plan (FMP) to: adjust the opening date of the Purse seine category from August 15 to July 15; establish a closure date for the Harpoon category on November 15; adjust the closure date for the coastwide General category October time period subquota from December 31 to January 31; and adjust the tolerance limits for large medium Atlantic bluefin tuna (BFT) landings in the Purse seine and Harpoon categories.
Type of statement:	Draft Environmental Assessment (EA), Regulatory Impact Review (RIR), and Initial Regulatory Flexibility Analysis (IRFA)
Lead Agency:	National Marine Fisheries Service (NOAA Fisheries): Office of Sustainable Fisheries (F/SF)
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Abstract:	<p>In April 1999, NOAA Fisheries adopted a Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks (HMS FMP), that was developed to meet the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This regulatory amendment considers several issues that have arisen since the implementation of the HMS FMP and need to be addressed in order to more effectively meet the objectives of the HMS FMP. A change in the Purse seine category start date is intended to stagger BFT landings among different commercial sectors to improve market conditions as well as reduce overlap with other gear types on the fishing grounds. Establishment of an end date for the Harpoon category fishery would assist in maintaining this category's quota for intended traditional participants. An adjustment to the General category sub-period schedule would provide greater access to General category quota for southern area fishermen. A change in Purse seine and Harpoon category access to large medium BFT may further assist these categories achieve optimum yield by landing available quota and potentially reducing discards.</p>

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1.0. PURPOSE AND NEED FOR ACTION

Atlantic tunas are managed domestically under the dual authority of the Magnuson-Stevens Fishery Management and Conservation (Magnuson-Stevens) Act and the Atlantic Tunas Convention Act (ATCA). ATCA authorizes the Secretary of Commerce (Secretary) to implement binding Recommendations of the International Commission for the Conservation of Atlantic Tunas (ICCAT). The authority to issue regulations under the Magnuson-Stevens Act and ATCA has been delegated from the Secretary to the Assistant Administrator for Fisheries (AA), National Oceanic and Atmospheric Administration (NOAA). On May 28, 1999, NOAA Fisheries published final regulations (64 FR 29090) implementing the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks (HMS FMP), effective July 1, 1999. The HMS FMP established the objectives and basic program for domestic management of the U.S. Atlantic bluefin tuna (BFT) fishery, and supports the ICCAT rebuilding plan for BFT which was adopted in 1999.

Since development and implementation of the HMS FMP, several fishery conditions have changed such that regulatory amendments have been suggested to ensure management of the BFT fishery remains consistent with the objectives of the HMS FMP. NOAA Fisheries also received comment at an HMS Advisory Panel meeting, held in Silver Spring in February 2003, regarding proposed adjustments to domestic BFT management to further meet the objectives of the HMS FMP.

1.1 Management History

Below is a brief summary of the management history for each of the issues analyzed in this action. A statement of the purpose and need for each issue follows in Section 1.2

1.1.1 Purse Seine Category Season Start Date

From the late 1970s to 1980 the starting date for the Purse seine category season was adjusted several times with the primary intent to allow other BFT fishermen a greater opportunity to catch large BFT during the summer months and minimize possible gear conflicts between Purse seine category fishermen and other vessel gear types. This has been an ongoing issue since the 1970's when the opening of the BFT season was initially determined by the Regional Director and fluctuated between September 1 and the day after Labor Day. In 1977, the first adjustment shifted the start date from the beginning of the year on January 1 to September 1 and in June, 1978 was delayed to September 10. In 1979 the start date was adjusted to August 15 as it was determined to be late enough to avoid conflicts, but early enough to provide Purse seine category vessels ample opportunity to harvest an increase in their quota. In 1980, NOAA Fisheries proposed changing the Purse seine category start date back to September 1, again to minimize gear conflicts. However, the final rule maintained August 15 as the start date primarily due to public comment from Purse seine category fishermen that the August 15 start date made a great difference in assuring that this category land their quota.

From 1980, August 15 has remained as the start date for this category and was used as the start date in the HMS FMP. However, over the past several years Purse seine category vessels have been unable to fully attain their quota due to a number of factors including availability of legal sized fish; prohibitions on use of aircraft immediately after September 11, 2001; and, changed oceanographic conditions. In addition, landings from other categories and gear types, particularly the General category, that had usually participated in an active fishery prior to the start of the Purse seine category, are now increasing later in the season and coinciding with Purse seine category vessel activity and landings.

Over the past two years (2002 and 2003) all five Purse seine category vessels have been issued exempted fishing permits (EFP) allowing an early start date of July 15 (only two vessels actually landed fish during this earlier period in 2002), to investigate whether an earlier start date would reduce the overlap among the fisheries and assist attain optimum yield for the Purse seine category in addition to improving market conditions for the BFT fishery as a whole. Results from the EFPs for 2002 showed that not all vessels availed themselves of the opportunity to fish at an earlier start date due to inclement weather, fish availability or other reasons.

1.1.2 Harpoon Category Season End Date

In 1980, NOAA Fisheries created a separate Harpoon category with its own quota allocation and not subject to a daily retention limit. Justification for this action noted that harpooning had long been used as a method of catching giant tuna in the northern sector of the fishery (i.e. the Gulf of Maine), and that harpoon fishermen were not competitive in a general handgear fishery subject to a daily catch limit because of the few days on which weather and sea conditions permit harpooning (45 FR 16506, March 14, 1980). A large number of commentators on this proposed rule supported the concept of a harpoon quota, the preservation of the traditional New England fishery and the recognition that unless a separate category was established, many of the harpoon fishermen that depend upon BFT for a substantial part of their livelihood, especially those fishing off northern Massachusetts and along the Maine coast, would not find it economically feasible to continue fishing for BFT (45 FR 40118, June 13, 1980).

Since establishment of the Harpoon category, the regulatory history for this category primarily consists of annual quota allocations and inseason actions. It is the smallest of the HMS directed fishery categories in value and volume of landings. In 2002, there were approximately 50 permit holders in this category and only 32 participants that landed fish. Traditionally, the small quota and unlimited daily bag limit has meant that the quota has been landed and the fishery closed just a few months after the June 1 season start date. However, most recently landings have declined and quota has remained unharvested, leaving the category open for the entire fishing year without the need to issue a closure notice.

Last year, for the first time, there were several landings of fish recorded as caught by harpoon gear off southern Atlantic states. BFT migrate annually in the fall from the area of the traditional harpoon fishery southward to the waters of the South Atlantic bight off North Carolina. Since the quota had not been fully harvested while BFT were in their summer feeding

grounds off New England, fishermen from other areas had access to the quota during the fall migration and winter months. Continued seasonal access to the Harpoon category quota could result in the development of harpoon fisheries in areas other than New England, contrary to the original intent of the establishment of this category.

1.1.3 General Category Season End Date

General category quota is available to all commercial handgear tuna fishermen from the opening of the fishing year on June 1 through the end of the season on December 31. Due to high participation and limited quota, effort controls are instituted, in terms of restricted fishing days and time-period subquotas, to slow down the catch rate and spread out landings both geographically and in time. Prior to 1999, despite the implementation of effort controls in the General category, the quota was attained and the category closed in mid to late summer while BFT were still off northern New England states. Despite the seasonal General category closure, a BFT fishery on large mediums and giants emerged off the coast of North Carolina during February and March. This southern fishery was recreational in nature because it occurred after the General category season closing. In later years, fish began to arrive in the region during the late fall/early winter, and interest in a commercial fishery developed.

The 1999 HMS FMP discussed the development of the fishery off the coast of North Carolina as concentrations of large BFT began appearing from December through March. Catch rates in 1996 and 1997 were extremely high as compared to catch rates off the New England coast. Many BFT were tagged off North Carolina in 1996 and 1997, using the latest technology, such as pop-up and archival satellite tags. Catch rates in 1998 were low, possibly due to oceanographic conditions. In contrast, 1999 catch rates were again high, and additional BFT were released with archival tags. A variety of long-term effort controls in the BFT fishery were analyzed in the HMS FMP to achieve a variety of FMP objectives and at that time it was concluded that the status quo management regime for the General category assisted in attainment of optimum yield, and addressed allocation issues by lengthening the season over time and space in a category with high participation and catch rates. During the development of the HMS FMP and at several HMS AP meetings, a considerable amount of public comment was received regarding the need to establish a quota for a fishery off southern Atlantic states, particularly off the coast of North Carolina. No consensus was reached during the HMS AP discussions regarding the development of a new southern Atlantic General category BFT fishery.

At the time of drafting and implementation of the HMS FMP in 1999, the rod and reel fishery off North Carolina was primarily catch and release. Landings were limited to the recreational fishery as the General category fishery had closed prior to the availability of BFT off southern Atlantic states. Since completion of the HMS FMP in 1999, catch rates off North Carolina have remained high, and unlike prior to 1999, General category quota has remained available later into the fishing year. This change is likely attributable to a combination of factors including changed oceanographic conditions, lower catch rates earlier in the season, fish migration patterns, and forage fish availability. As a result of these changed factors, NOAA Fisheries for the past several years has undertaken numerous inseason actions to ensure full

utilization of available United States quota and to provide reasonable fishing opportunities to participants in all geographic areas.

As a result of these inseason management actions, General and Charter/Headboat category vessels have had the opportunity to participate in a late season (Winter) commercial BFT fishery under the General category quota off southern Atlantic states. These opportunities have led to renewed and raised expectations for a more formalized and predictable fishery for participants in the BFT fishery off southern Atlantic states. Since implementation of the HMS FMP and during the comment period for the 2001 and 2002 BFT proposed quota specifications and General category effort controls, NOAA Fisheries received numerous comments that stated south Atlantic states, and in particular North Carolina fishermen, should have their own winter General category set aside quota. These comments repeated prior concerns that the current General category allocation scheme discriminates between residents of different states and fails to provide equitable fishing opportunities across different geographical areas. Commentors also requested that there be a December through January time-period subquota established for southern states. NOAA Fisheries maintained the proposed quota allocation scheme in the final quota specifications and did not undertake rulemaking to implement a specific set-aside quota for the southern area or North Carolina. However, in the final 2002 specifications NOAA Fisheries also stated it would continue to assess the order of magnitude and scope of the fishing activities that would be associated with a southern Atlantic General category BFT fishery and would continue to work with the HMS AP to address potential solutions.

On October 16, 2002, the North Carolina Division of Marine Fisheries (Petitioner) submitted a request to NOAA Fisheries to initiate rulemaking for a regulatory amendment which would allocate 23 percent of the General category BFT quota to a new December 1 through January 31 time-period subquota (the petition). In 2002, the initial General Category allocation equaled 647 mt, thus 23 percent would equal 150 mt. The Petitioner stated that the current allocation scheme and effort control program for BFT does not provide a reasonable opportunity to harvest BFT when the fish appear off the South Atlantic coast. In addition, the petitioners maintained that the current scheme confounds the collection of fishery data and confounds management for optimum yield. NOAA Fisheries acknowledged receipt of the petition and requested public comment on the proposal (67 FR 69502; November 18, 2002).

NOAA Fisheries received 28 comments on the petition. Comments ranged from support to opposition. Other commentors requested more time to consider the petition and encouraged the agency to discuss the matter further with the HMS AP. The Petition, and the issues it raises for a southern Atlantic, late season, commercial BFT fishery, were the subject of extensive discussion at the HMS AP meeting in Silver Spring MD in February 2003. Although the discussion was contentious, members of the AP generally supported a late season commercial General category fishery for southern Atlantic states, depending upon the details and impacts on other fishery participants. In particular, AP members were generally supportive of using some proportion of the additional BFT quota allocated by ICCAT in 2002 towards meeting the objectives of the Petition.

This action proposes an interim step to provide southern area and North Carolina BFT fishermen with greater access to a commercial fishery during the time period prior to preparation and adoption of an FMP amendment. Within the bounds of a regulatory amendment, NOAA fisheries has the authority to extend the General category season, and analyzes the potential impacts of a range of alternatives for the General category end date in this document. On July 9, 2003, NOAA Fisheries published in the Federal Register (68 FR 40907) its intent to prepare an FMP amendment that would address, among other issues, quota allocation of BFT among and within domestic fishing categories.

1.1.4 Retention of Large medium BFT by Purse Seine and Harpoon Categories

Purse Seine Category

Purse seine vessels have participated in the BFT fishery since the 1950s when they targeted small BFT, primarily for canneries. During the 1970s, regulatory and market forces caused Purse seine vessels to start targeting larger fish destined for the steak/fillet and raw tuna markets. In June 1982, due to declining stocks and a limited quota, participation in the fishery was restricted to only those vessels that were granted allocations and had landed BFT in a directed fishery during 1980 through 1981. This final rule also designated BFT as “incidental catch only” while fishing for other tunas. Allocations of quota for giants as well as BFT in smaller size classes were authorized.

However, in 1983, due to the availability of additional quota, Purse seine vessels were again allocated a quota for a directed BFT fishery. Due to ongoing concerns about the size of the stock, a final rule published in June, 1983 (as amended by technical corrections) provided separate directed quotas for giants and smaller size classes, as well as an incidental quota. Continuation of the incidental catch quota was justified because large numbers of medium and giant BFT were presently available in the fishery and often found in mixed schools, making size composition assessments difficult prior to making a purse seine set. The rule also considered that, based on recent landings data which reflected the stock structure of the BFT overall, an incidental catch of large medium BFT of up to 10 percent of giants caught was reasonable.

In 1992, again out of concerns regarding mortality rates and reduced stock size, the total U.S. quota allocation was reduced and size limits were introduced to protect and reduce economic incentives on smaller fish. As a consequence, the Purse seine category quota was proposed to be restricted to a directed fishery on giants only. It was noted that, as the incidental-take option for smaller fish had not been used by the Purse seine category because they were harvesting giants only, there would be no negative impact from eliminating the option. However, in the final rule, adjustments were implemented to allow Purse seine vessels to land large medium BFT up to 10 percent of the total weight of giants on board. Justification for this action included the need to address potential waste and discards of large mediums caught while targeting giant tuna and, at the same time, to address concerns about high levels of fishing mortality on a size class about to enter the spawning biomass. This in turn altered the fishing practices of Purse seine category vessels to avoid targeting schools without large proportions of

giants.

During rulemaking in 1995, NOAA Fisheries initially proposed to amend the 10 percent bycatch limit for large medium BFT in the Purse seine category from a per trip limit, to a per season limit. It was recognized that, although BFT tend to segregate into size classes, some large medium size class fish are inevitably captured when setting on giant BFT and with different frequency based on the time of the year. The seasonal bycatch allowance would recognize the seasonal variation of mixed schools (i.e., large medium BFT may be more prevalent early in the season) thus reducing potential discards and limiting BFT mortality, since retained large medium fish are counted against the landings quota. In response to comments, and to assist law enforcement, the final rule amended the incidental catch allowance to restrict the take of large medium BFT to 15 percent per trip and 10 percent per season. This allowed NOAA Fisheries to monitor the take of large medium BFT on a trip level basis as well as at seasons end. This also provided more flexibility on an individual trip basis while maintaining the focus of fishery effort on mature giant BFT.

In the Draft HMS FMP, two alternatives were considered to eliminate the tolerance of large medium BFT. The first alternative considered eliminating one large medium per day in the Harpoon category and the second alternative considered restricting Purse seine category vessels to only giant size class fish. Although not implemented, these two alternatives were considered as they could have protected and relieved pressure on immature sized fish, even though they may also have increased discards. Since 2001, Purse seine category landings were steady until the September 11 attack. After September 11, spotter planes were essentially unable to assist Purse seine category vessels locate schools of BFT due to a requirement by the Federal Aviation Administration to have all flights schedule a predetermined flight pattern prior to take-off. This dramatically affected the Purse seine category vessels ability to locate, set on, and harvest the BFT quota for the 2001 fishing year. During the 2002 fishing year a different set of circumstances affected the Purse seine category vessels ability to harvest their allocated quota. Purse seine category vessel operators have claimed there were large numbers of mixed schools of BFT, comprised of different size classes, and that it was difficult to locate schools of giant BFT to set on, thus potential increasing BFT discards and not landing the allocated quota. In 2003, Purse seine vessel operators have stated that the situation is similar to 2002, although exacerbated by the further apparent decline in availability of giants.

Harpoon Category

When the Harpoon category was created in 1980, it was allocated a small portion of the handgear quota of giant tuna in recognition that harpooning had long been used as a method of catching giant tuna in the northern fishery and merited a historical niche in the giant fishery. In 1992 the BFT regulations were overhauled in response to quota reductions from ICCAT, and also to address the need to reduce the fishing pressure on small fish and economic incentives to target small fish. In addition a new size class of large mediums was created and defined as fish

that are smaller than giants that may be sold (i.e. 70 to less than 77 inches¹, or 178 to less than 196 cm). In the 1992 final rule, the daily catch limit regulations regarding the Harpoon category were modified to restrict vessels to one large medium per day as well as an unlimited number of giants. At that time, NOAA Fisheries recognized that while an objective of the rule was to reduce the pressure on immature bluefin that are about to enter the spawning stock biomass, it was also necessary to provide a margin of error for commercial fishermen who pursue giants and to address concerns regarding potential waste of tuna smaller than the giant size class that would be caught.

Since 1992, Harpoon category catch limit regulations have remained unchanged regarding allowance for an unlimited number of giants and one large medium per day, while quota is available. In the development of the HMS FMP, alternatives were considered to eliminate the tolerance of one large medium per day and restrict Harpoon category vessels to only giant size class fish. Although not implemented, this alternative was considered as it could have further protected and relieved pressure on immature sized fish even though it may also have increased discards. Over the last couple of years, however, the Harpoon category has not been fully harvested. This can be attributed to a number of reasons such as oceanographic conditions, weather patterns, limited use of spotter aircraft, migratory patterns, etc. As with the Purse seine category, operators of Harpoon category vessels claim large numbers of mixed schools of BFT are comprised of different size classes, and that it has been difficult to locate schools of giant BFT on the fishing grounds. Having the ability to visually determine the size class of BFT prior to throwing a harpoon is a vital characteristic of this fishing method so as to minimize any mortality on undersized BFT.

1.2 Need for Action and Objectives

The purpose of this regulatory amendment is to adjust and enhance management of the BFT fishery to further meet the goals and objectives of the HMS FMP and its implementing regulations, applicable statutes including the Magnuson-Stevens Act and ATCA, and the 1998 ICCAT Rebuilding Plan. The specific need for action for each issue is described below.

1.2.1 Purse Seine Category Start Date

At the HMS AP meeting a proposal was raised to adjust the Purse seine category opening date from August 15 to July 15. Since the early 1980s, the Purse seine category fishery has commenced on August 15 primarily to avoid conflicts with handgear vessels fishing earlier in the season (from June 1). A later start date also assisted to reduce market gluts by staggering the landings and sale of Purse seine caught fish until after an extensive handgear fishery had taken

¹In March 1995 the length definition for each BFT size category was amended to specify BFT size classes relative to curved length measure. Specifically, the large medium size class changed to 73 to less than 81 inches (185 to less than 206 cm), and the giant size class to 81 inches or greater (206 cm or greater). This measure was implemented as a more feasible measurement method to apply to BFT on a vessel or at the dock and eased enforcement.

place. However, over the past several years the majority of landings of handgear caught fish have occurred later in the season and are occurring over the same time frame that Purse seine vessels are active and landing their fish on the market. The proposal raised at the HMS AP meeting considered adjusting the Purse seine category start date to earlier in the season (i.e. to July 15), to avoid conflicts with handgear vessels and reduce market gluts.

This issue needs to be addressed, and alternative actions are analyzed in this EA/RIR/IRFA, to ensure consistency with the objectives of the HMS FMP, particularly regarding management of Atlantic HMS fisheries for continuing optimum yield, and to better coordinate domestic conservation and management of the HMS fisheries, considering the overlapping regional and individual participation, as well as all applicable law and the 1998 ICCAT recommendation for western Atlantic BFT stock rebuilding.

1.2.2. Harpoon Category End Date

The Harpoon category consists of a relatively small number of vessels (less than 50) that are only allowed to fish for BFT with harpoon gear starting on June 1. This category was originally established for traditional harpoon fishermen from northern New England and is allocated a percent of the overall TAC. Since the category's creation in the early 1980s, it has harvested its quota early in the season when bluefin occur in northern New England waters. However, over the past two years not all the harpoon quota has been utilized early in the season, and harpoon landings have begun to occur late in the fishing year off mid to southern Atlantic states as BFT migrate south. At the HMS AP meeting a proposal was raised to establish a date-certain closure of the Harpoon category on November 15 to ensure the original intent of the Harpoon category is maintained (i.e. for a fishery off northern New England states).

This issue needs to be addressed, and alternative actions are analyzed in this EA/RIR/IRFA, to ensure consistency with the objectives of the HMS FMP, particularly regarding preserving traditional fisheries and consideration of historical fishing patterns and participation, as well as all applicable law and the 1998 ICCAT recommendation for western Atlantic BFT stock rebuilding.

1.2.3 General Category End Date and/or Time Period Sub-quota Allocation

NOAA Fisheries is in receipt of a petition from the North Carolina Division of Marine Fisheries (Petitioner) to initiate rulemaking to amend the HMS FMP implementing regulations to create a General category winter time-period subquota. The Petitioner states that the quota allocated to the late season General category fishery does not provide reasonable opportunity to harvest BFT when they appear off the South Atlantic coast. The Petitioner believes that there is inequity in the current General category BFT management scheme, and that it is necessary to create a General category December through January subquota to ensure fair and equitable treatment to all General category permit holders. The Petitioner explains that the effect of the current allocation of General category quota is to disadvantage General category permit holders

who wish to commercially pursue BFT in the South Atlantic, confound the collection of fishery data, and confound management for optimum yield.

This issue has been extensively discussed through prior rulemaking and at the HMS AP meeting in February 2003. During public comment and discussion it was noted that to accommodate the establishment of a General category time-period subquota from December through January, it would be necessary to determine availability of quota for this time-period and modify the current time-period subquota starting October 1 to close on or near November 15, rather than the existing date on December 31. These issues need to be addressed, and alternative actions are analyzed in this EA/RIR/IRFA, to ensure consistency with the objectives of the HMS FMP, particularly regarding management of Atlantic HMS fisheries for continuing optimum yield so as to provide the greatest overall benefit to the Nation, preserving traditional fisheries, provide data necessary for assessing the fish stocks and managing of the fisheries, minimize to the extent practicable economic displacement and other adverse impacts on fishing communities during the transition from overfished fisheries to healthy ones, and to better coordinate domestic conservation and management of the HMS fishery considering the overlapping regional and individual participation, as well as all applicable law and the 1998 ICCAT recommendation for western Atlantic BFT stock rebuilding.

1.2.4 Retention of Large medium BFT by the Purse Seine and Harpoon Categories

At the HMS AP meeting a proposal was raised to consider modifying the regulations to implement a minimum size of 73" for both the Purse seine and Harpoon categories. Currently both the Purse seine and Harpoon categories are restricted to fish for BFT greater than 81" with allowances for some harvest of fish between 73" and 81". Harpoon and Purse seine vessels have traditionally preferred to harvest larger fish and biological research shows that these larger fish are more likely to have spawned, and thus contributed to increasing the population of this overfished stock. Recently, however, Purse seine and Harpoon quotas have not been attained and vessels in this category are reporting an abundance of fish between 73" and 81", and difficulty locating and harvesting fish greater than 81".

Comments at the HMS AP meeting noted that changing the minimum size for these categories to 73", without tolerance limits, would provide greater fishing opportunities for fishing vessels in these categories, may reduce discards, and may allow full attainment of quota. Comments have also been received stating concern that waiving the allowances may have biological impacts on the stock with greater harvest of fish that have not yet spawned. These issues need to be addressed, and alternative actions are analyzed in this EA/RIR/IRFA, to ensure consistency with the objectives of the HMS FMP, particularly regarding: management of Atlantic HMS fisheries for continuing optimum yield so as to provide the greatest overall benefit to the Nation; prevent or end overfishing of Atlantic tuna; to rebuild overfished fisheries in as short a time as possible; preserving traditional fisheries; to minimize to the extent practicable, economic displacement and other adverse impacts on fishing communities during the transition from overfished fisheries to healthy ones; to provide data necessary for assessing the fish stocks and addressing inadequacies in current collection and ongoing collection of social, economic and

bycatch data about HMS fisheries; and to better coordinate domestic conservation and management of the HMS fisheries considering the overlapping regional and individual participation, as well as all applicable law and the 1998 ICCAT recommendation for western Atlantic BFT stock rebuilding.

2.0 SUMMARY OF THE ALTERNATIVES

2.1 Issue One: Purse Seine Category Season Start Date

The following alternatives represent the range of options considered by NOAA Fisheries regarding a start date for the Purse seine category fishery.

2.1.1 Alternative One: No Action/Status Quo - Purse Seine Category Season Start Date Remains on August 15

This alternative would maintain the current start date of the Purse seine category season at August 15.

2.1.2 Alternative Two: Change Purse Seine Category Season Start Date to July 15 - *Preferred Alternative*

This alternative would change the start of the Purse seine category season to July 15. An earlier Purse seine category start date is intended to reduce General category and Purse seine category fishery activity and landings overlap, and help improve market prices thereby enhancing the opportunity to achieve optimum yield in these sectors of the BFT fishery.

2.1.3 Alternative Three: Adjust the Purse Seine Category Season Start to June 1

This alternative would change the start of the Purse seine category season to June 1. A Purse seine category start date of June 1 is intended to simplify BFT management by instituting the same start dates for all directed commercial BFT fishery sectors. It is also intended to achieve the same objectives as Alternative 2, namely; reduce General category and Purse seine category landings overlap, help improve market prices, and enhance the opportunity to achieve optimum yield in these sectors of the BFT fishery.

2.2 Issue Two: Harpoon Category Season End Date

The following alternatives represent the range of options considered by NOAA Fisheries regarding an end date for the Harpoon category fishery.

2.2.1 Alternative One: No Action/Status Quo: Harpoon Category Season Remains Open

Under this alternative, the Harpoon category would remain open during the entire fishing year, June 1 through May 31 of the following year or until the quota is harvested, whichever comes first. Harpoon category landings may occur before and after the emigration of BFT from New England, and fishermen from geographic regions outside the traditional New England fishery could land BFT under the Harpoon category quota.

2.2.2 Alternative Two: Close Harpoon Category Season on November 15 - *Preferred Alternative*

This alternative would close the Harpoon category fishery on November 15, even if the quota has not been harvested before that date. The intent of this alternative is to close the harpoon fishery on a date approximating the emigration of BFT from New England and before fish are available to other regions to ensure that the Harpoon category quota is maintained for the traditional New England harpoon fishery.

2.2.3 Alternative Three: Establish a Flexible Harpoon Category Season.

This alternative would provide NOAA Fisheries with the authority to open and close the Harpoon category season with an inseason action, based on the geographic distribution of BFT. Once a giant BFT is landed in an area south of the New England region, NOAA Fisheries would close the fishery, providing reasonable public notice. The intent of this alternative is to maximize the amount of time for Harpoon category fishermen to fish for BFT while fish are available in New England waters. This alternative would also permit NOAA Fisheries to re-open the fishery in the spring, prior to the start of the June 1 fishing year, if Harpoon category quota remained available. Re-opening (prior to June 1) would be based on immigration of BFT into the New England Area, as indicated by New England BFT landings in other categories, if available.

2.3 Issue Three: General Category Season End Date

The following alternatives represent the range of options considered by NOAA Fisheries for changes to the end of the General category fishing season.

2.3.1 Alternative One: No Action/Status Quo - No Change to General Category Season Structure

Under this alternative no changes would be made to the General category season structure. The fishery would close for the remainder of the fishing year on December 31 or when the quota has been exhausted, whichever comes first. The General category fishing season and quota is subdivided among three seasonal time periods as follows:

TIME PERIOD	DATES	SUB-QUOTA %
1st	June 1 - August 31	60
2nd	September 1 - September 30	30
3rd	October 1 - December 31	10

2.3.2 Alternative Two: Extend the Third (last) General Category Subperiod through January 31 - Preferred Alternative

This alternative would change the General category's third time period, which begins on October 1, to extend through January 31. The intent of this date change is to allow a southern area fishery to occur through the end of January or as long as the quota lasts, whichever comes first, in order to provide additional fishing opportunities to fishermen in southern area states. This alternative could also increase the geographic and temporal distribution of landings and broaden the range of data available for scientific research and increase optimum yield.

2.3.3 Alternative Three: Extend the Last General Category Subperiod through May 31

This alternative would change the General category's third time period, which begins on October 1, to extend through May 31. This date change would allow the southern Atlantic General category fishery to occur through the end of May, or until the subquota is exhausted, whichever comes first. The intent of this date change is to maximize access of General category fishermen by providing access throughout the fishing year, depending on availability of quota, and thus maximize the geographic and temporal distribution of the fishery.

2.3.4 Alternative Four: Alter the Dates for the Second and Third General Category Time Periods - Deferred

This alternative would change the end date for the second time period from September 30 to November 30, and change the dates for the third time period so it extends from December 1 through January 31. The intent of these time period adjustments is to provide additional fishing opportunity during the third time period to a southern Atlantic General category BFT fishery as well as increase the likelihood of availability of quota. If the annual immigration into the southern area occurs prior to November 30 and subquota remains for the second time period, southern area fishermen would have access to the second time period subquota as well. Since this alternative could result in a defacto sub-period quota reallocation, an FMP amendment is necessary for its implementation. Therefore, this alternative is not analyzed further in this document but can be considered during the development of a future Amendment to the HMS FMP.

2.4 Issue Four: Retention of Large Medium BFT by Purse Seine and Harpoon Categories

The following alternatives represent the range of options considered by NOAA Fisheries for changes to the retention tolerance for large medium BFT (73" to less than 81" curved fork length) by the Purse seine and Harpoon category fisheries.

2.4.1 Alternative One: No Action/Status Quo - No Change to Tolerance Limits for Large Medium BFT by Purse Seine and Harpoon Categories

This alternative would maintain the current tolerance limits for large medium BFT in the Purse seine and Harpoon category fisheries. Current regulations allow retention of large medium BFT by fishermen in these categories to a limited degree (“tolerance”). The large medium tolerance limit for the Purse seine category fishery is 15 percent of giants per trip and 10 percent of the annual vessel allocation. Purse seine category vessels may also retain BFT that are less than large medium in size as long as the smaller fish are incidental when targeting other tuna and are less than 1 percent of the total trip. Also, these smaller fish may not be sold. Vessels fishing under the Harpoon category may retain 1 large medium per day. Under the status quo, NOAA Fisheries has existing authority and approval for a logbook and observer program, although neither has yet been fully implemented for either the Purse seine or Harpoon categories.

2.4.2 Alternative Two: Remove Purse Seine Category Restriction on Large medium BFT In Excess of 10% of Annual Vessel Quota

This alternative would remove the regulation restricting Purse seine annual landings of large medium BFT to ten percent but would retain the per trip tolerance of large medium BFT limit of 15 percent. This alternative in effect provides an upper annual limit of large medium BFT at 15 percent which also applies each trip. The intent of this alternative is to improve Purse seine category access to allocated quota by allowing an increased harvest of large medium BFT while minimizing mortality on immature fish.

2.4.3 Alternative Three: Remove per Trip Purse Seine Category Restriction on Large medium BFT and Increase the Annual Limit to 15% of Vessel Fishing Year Landings - Preferred Alternative

This alternative would remove the trip limit tolerance for large medium BFT, currently at 15 percent per trip, and increase the annual vessel tolerance limit from ten percent to 15 percent by weight of each vessel’s fishing year landings. This alternative is similar to Alternative Two as it also effectively caps overall mortality and landings of large medium BFT at 15 percent for the year. However this alternative is intended to provide greater flexibility for Purse seine category vessels by not specifying a trip limit, and thus allowing the retention of a greater range of size classes at landing per trip, while maintaining a yearly landings limit of large medium BFT to protect immature fish. In addition, since NOAA Fisheries currently has very little information about BFT discards associated with this segment of the BFT fishery, a previously approved existing vessel logbook program (0648-0371)² is proposed as a part of this alternative to gather more data on this issue. Implementation of a previously approved observer program (0648-0374) is also being considered under this alternative although not proposed at this time.

2.4.4 Alternative Four: Change Minimum BFT Size for Purse Seine Category to 73"

²Reporting requirements have previously been approved by the US Office of Management and Budget (OMB) under the requirements of the Paperwork Reduction Act. The OMB approval numbers for each reporting package are indicated.

This alternative would reduce the BFT minimum size for the Purse seine category from 81" to 73" and provide Purse seine category fishermen with complete access to the large medium size category (i.e. eliminate the tolerance or restriction on numbers or percent of large medium fish). The intent of this alternative is to improve access to the Purse seine category quota by allowing an increase in retention of the large medium size class and to simplify the management regime by providing Purse seine category fishermen with the same minimum size limit as the General category.

2.4.5 Alternative Five: Increase the Harpoon Category Restriction on Large medium BFT to Two per Day - Preferred Alternative

This alternative would increase the Harpoon category's tolerance for retention of large mediums from one to two large medium BFT per day. The intent of this alternative is to improve access to the Harpoon category quota by allowing an increase in retention of large medium BFT while still minimizing mortality on immature fish. In addition, a previously approved existing vessel logbook program (0648-0371) and/or observers (0648-0374) may be considered by NOAA Fisheries in the future to gather more data on activities in this fishery, including discard rates.

2.4.6 Alternative Six: Change Minimum BFT Size for Harpoon Category to 73"

This alternative would reduce the minimum size for the Harpoon category from 81"(with some tolerance for retaining large medium BFT) to 73". This would provide Harpoon category fishermen with unrestricted access to the large medium size class. The intent of this alternative is to improve access to the Harpoon category quota by allowing an increase in retention of large medium BFT and provide consistency in the management regime by providing Harpoon category vessels with the same minimum size limit as the General category.

2.4.7 Alternative Seven: No Tolerance for Retention of Large medium BFT in Harpoon and Purse Seine Categories.

This alternative would remove all tolerance for retention of large medium BFT in the Harpoon and Purse seine categories by increasing the minimum size limit to 81", i.e. zero tolerance for large medium BFT. Thus the current large medium tolerance limit for the Purse seine category fishery of 15 percent of giants per trip and that the annual landings are less than 10 percent of the annual vessel giant allocation, would be removed. Purse seine category vessels would still be able to retain BFT that are less than large medium in size as long as the smaller fish are incidental when targeting other tuna, are less than 1 percent of the total trip, and are not sold. Vessels fishing under the Harpoon category would no longer be allowed to retain 1 large medium per day. The intent of this alternative is to decrease mortality on immature fish and simplify the management regime by enforcing and managing one size limit without variances.

3.0 DESCRIPTION OF AFFECTED ENVIRONMENT

This section includes a brief summary of the biology of BFT, status of the BFT stock and affected elements of the ecological environment including habitat and protected species. This section also describes the affected human environment including the fishery and its participants. For a complete description of these issues, please see the HMS FMP and the 2003 HMS Stock Assessment and Fishery Evaluation Report (SAFE Report). Also, for more information on interactions and concerns with protected species and the Atlantic tunas fishery, please see the 2002 Final Supplemental Environmental Impact Statement (FSEIS) for Regulatory Amendment 2 to the HMS FMP to Reduce Sea Turtle Bycatch and Bycatch Mortality in HMS.

3.1 BFT Biology and Stock Status

BFT is internationally managed as two stocks - western Atlantic and eastern Atlantic. This document refers to western Atlantic BFT unless otherwise indicated. BFT are distributed from Newfoundland south to the Gulf of Mexico where they are thought to spawn in the spring. In the summer they move northward up the coast to feeding grounds in the Gulf of Maine.

Size at sexual maturity for BFT is not precisely known, but generally estimated to average about 77 inches (196 cm) straight fork length and 320 lbs (145 kg). At this size, BFT are generally accepted to be about eight years old. (BFT in the eastern Atlantic are thought to grow faster, generally reach a smaller maximum size, and mature at an earlier age than western Atlantic fish.)

BFT have a relatively long life span (20 years or more) which means that a stock consists of several age classes. This condition may serve as a buffer against adverse environmental conditions and confers some degree of stability on a stock. Particularly strong BFT age classes occurred in 1995-96. These year classes would be 7 to 8 years old in 2003, and some of them have probably been recruited into the fishery for certain commercial categories (73" and above). The increase in large medium landings in the General category fishery in 2001 and 2002 may reflect the recruitment of this year class into the US commercial fishery (Figure 1).

Currently classified as overfished with overfishing occurring, BFT are internationally managed under the ICCAT 20-Year Rebuilding Program, which was implemented in 1999, with a target goal of rebuilding (reaching maximum sustainable yield or MSY) by the year 2018. At the 2002 meeting of the Standing Committee on Research and Statistics (SCRS) of ICCAT, stock assessment analyses were prepared for the western and eastern Atlantic stocks of BFT. For western Atlantic BFT, two stock assessment scenarios were prepared based on assumptions regarding recruitment. The results of projections based on the low recruitment scenario for the western Atlantic stock indicated that a constant catch of 2,500 mt per year has a 97 percent probability of allowing rebuilding to the associated B_{MSY} level by 2018. A constant catch of 2,500 mt per year has about a 35 percent probability of allowing rebuilding to the 1975 stock size by 2018. The SCRS notes that, arguably, SSB_{75} is appropriate as a target level for interpreting the implications of projections based on the high recruitment scenario. Under the high recruitment

scenario, a constant catch of about 2,500 mt has about a 60 percent probability of allowing rebuilding to the 1975 stock size; a catch of 2,700 has about a 52 percent chance of reaching this stock size. The SCRS cautioned that these conclusions do not capture the full degree of uncertainty in the assessments and projections.

ICCAT adopted a recommendation at its 2002 meeting to revise the annual quota of BFT in the western Atlantic Ocean from 2,500 mt to 2,700 mt, which is consistent with the ICCAT rebuilding program. The share allocated to the United States was increased to 1,464.59 mt. In addition, ICCAT recommended this TAC remain the same for 2003 and 2004. A new stock assessment will be made at the end of 2004. At that time, ICCAT may have new information on which to base a change, if any, to the western Atlantic BFT quota and the U.S. quota share.

3.2 Fisheries, Fishery Participants, Gear Types, and Affected Area

Fishery participation in the Atlantic tuna fishery includes over 26,000 vessels in five permitted directed fishing categories and two permitted incidental fishing categories (Table 1). Generally, separate permits are issued for specific gear types, and participants are restricted to the use of only those allowed gears. For directed fisheries on BFT, these gears consist of purse seine, rod and reel, harpoon, handline, and bandit gear. Incidental catch of BFT is allowed with pelagic longline gear when targeting other HMS species, primarily swordfish, bigeye, and yellowfin tuna; however, directed fishing on BFT with pelagic longline gear is prohibited. Finally, a small incidental quota of less than 2 mt is provided for trap gear (Table 1). Table 2 summarizes the affected areas off the coast of the United States and the seasonal pattern of the fishery as the BFT migrate along the Atlantic and Gulf of Mexico coasts.

Overall U.S. landings of Atlantic BFT by category from 1996 through 2002 are provided in Table 3. Quotas have largely shaped BFT landings since 1982. Commercial categories are monitored by a census of landing cards, whereas the recreational catch is monitored by survey. A quota is also used to manage the recreational HMS Angling category, although time lags in receipt and analyses of survey data, and uncertainty inherent in estimation procedures, mean delayed calculation of final annual landing estimates. Since the implementation of the HMS FMP, the BFT fishery has been managed on a fishing year basis (June 1 through May 31) versus a calendar year basis.

Issues analyzed in this action are expected to have specific impacts and consequences for the General, Purse seine, and Harpoon categories. More background on each of these categories is given below.

General Category - The General category is the largest commercial BFT fishing sector by number of permits (Table 1), landings (Table 3), and gross revenues (Table 16). This category allows the commercial use of hand gear, including rod and reel, handline, harpoon and bandit gear (most fishermen use rod and reel). The minimum size for BFT landed in the General category is 73". Many anglers purchase a General category permit so they have the opportunity to sell a large medium or giant BFT should they catch one, and many fishermen in this category are not full-time

commercial fishermen. For example, in 1998, only 11 percent of vessels holding a permit in the General or Charter/Headboat categories landed a bluefin measuring greater than 73". In early 2003, a final rule went into effect requiring recreational HMS fishermen to obtain an HMS Angling category permit (67 FR 77434, December 18, 2002). Owners of General category permits may now no longer recreationally fish for any HMS species as the regulations specify a vessel may only be permitted in one category per year. These actions effectively separated the commercial and recreational HMS fisheries.

The General category fishery occurs from Maine through North Carolina, depending upon the seasonal distribution of BFT and availability of quota (Table 2). The season opens on June 1 and closes when the quota has been landed or on December 31, whichever comes first. Traditionally the General category fishery was mainly a summer and fall fishery off the states of New England. In the mid-1990s, a recreational fishery developed off the coast of North Carolina as concentrations of large medium and giant BFT appeared in February and March. More recently BFT have appeared in the South Atlantic in late fall/early winter and, when General category quota was available, a winter General category fishery occurred (Table 9).

The baseline quota for the General category for 2003 is 689.8 mt (Table 1). Since 1996, landings have steadily increased with a slight decrease in 2002 (Table 3). On average, approximately 52 percent of General category landings occur from September through mid-October (Table 4). For 2003, only 18% of the quota (128 mt) had been landed by the end of September, making it one of the slowest seasons on record (NOAA Fisheries commercial BFT database). Usually, about 25 percent of General category landings have occurred by the start of the Purse seine category season in mid-August (Table 4).

Purse Seine Category - Vessels using purse seines have participated in the U.S. fishery for BFT continuously since the 1950s, although a number of purse seine vessels targeted and landed BFT off the coast of Gloucester, MA, as early as the 1930s. A limited entry system with non-transferable individual vessel quotas (IVQs) for Purse seine category vessels was established in 1982, and effectively excluded any new entrants to this permit category. Under this system, equal quotas are assigned to individual vessels by regulation. The IVQ system is possible largely because of the small pool of ownership in the Purse seine category fishery. Currently, only five vessels comprise the BFT Purse seine category and the quotas were made transferable among the five vessels in 1996.

The Purse seine category is allocated the second greatest share of the commercial BFT quota at 18.6 percent, which equaled 272.4 mt for 2003 (Table 1). Ex-vessel gross revenues for this category are greater than the Harpoon category, but less than the General category (Table 16). Purse seine category landings were fairly stable up until 2001 - 2002 when landings dropped fairly significantly (Table 3). Purse seine category fishermen report that they have had difficulty locating homogenous schools of giant BFT and that many of the schools contain extensive quantities of large medium BFT. Difficulty locating sufficient sized BFT has contributed to recent quota underage in this category and a rising number of landed large mediums in 2002 (Figure 1a).

Currently the size limit for the Purse seine category is 81" with tolerance for large mediums of 15 percent per trip and 10 percent of each vessel's overall annual quota. The Purse seine category season opens on August 15; however, experimental exempted fishing permits were issued to allow an earlier season opening of July 15 in 2002 and again in 2003.

Harpoon Category - The Harpoon category is a relatively small, open access BFT fishery that was established for the traditional New England harpoon fishery focused in the Gulf of Maine, off the states of Maine and Massachusetts. This is the smallest sector of the commercial BFT fishery in value (Table 16) and volume of landings (Table 3) with fewer than 60 permitted vessels (Table 1). Harpoon gear is most effective early in the season during clear days with calm seas, when BFT tend to school near the surface and are not receptive to hook and line gear. Later in the season, BFT behavior tends to change and harpoon gear is less successful, particularly with deteriorating weather conditions.

Landings for the Harpoon Category have historically been fairly stable, however in 2002 landings were at a seven year low (Table 3). Recently Harpoon category fishermen have fished over a longer season in an attempt to fill their quota (Table 5) and have recently caught more large medium BFT in 2002 than in the past four years (Figure 1b). In addition, for the first time, landings occurred in the southern region in 2002, outside the area of the traditional New England area fishery, for the first time (Table 6).

The use of spotter planes in this fishery to locate BFT has been a controversial issue. A ban on the use of spotter planes went into effect in 1997 but as a result of a lawsuit, the ban was rescinded in 1998. In December 2000, Congressional action resulted in another ban on the use of planes. The ban was overturned in mid-2003 and spotter planes are now again allowed to assist vessels in all BFT category fisheries.

3.3 Habitat

The area in which this action is planned has been identified as Essential Fish Habitat (EFH) for species managed by the New England Fishery Management Council, the Mid-Atlantic Fishery Management Council, the South Atlantic Fishery Management Council, the Gulf of Mexico Fishery Management Council, the Caribbean Fishery Management Council, and the HMS Management Division of NOAA Fisheries. Generally, the target species of the HMS fishery management units are associated with hydrographic structures of the water column, e.g., convergence zones or boundary areas between different currents. Because of the magnitude of water column structures and the processes that create them, there is little effect on habitat for HMS species' habitat that can be detected from fishing activities. HMS fisheries are pelagic in nature, and therefore there is little if any impact to EFH for other species as well.

3.4 Protected Species under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA)

The ESA is the primary federal legislation governing interactions between fisheries and

species whose continued existence is threatened or endangered. Through a consultative process, the ESA allows federal agencies to evaluate proposed actions in light of the impacts they could have on these ESA-listed species. In the case of marine fisheries, NOAA Fisheries Office of Sustainable Fisheries consults with the Office of Protected Resources to determine what impacts major fishery management actions will have on endangered populations of marine species and what actions can be taken to reduce or eliminate negative impacts. Under the consultative process, NOAA Fisheries issues a Biological Opinion (BiOp) which outlines expected impacts of the proposed action and specifies terms and conditions which must be met to mitigate impacts on ESA-listed species.

The MMPA of 1972 is the principal Federal legislation that guides marine mammal species protection and conservation policy. Under requirements of the MMPA, NOAA Fisheries produces an annual List of Fisheries that classifies domestic commercial fisheries, by gear type, relative to their rates of incidental mortality or serious injury of marine mammals. The List of Fisheries includes three classifications:

- Category I fisheries are those with frequent serious injury or mortality to marine mammals (pelagic longline);
- Category II fisheries are those with occasional serious injury or mortality (shark drift gillnet); and
- Category III fisheries are those with remote likelihood of serious injury or mortality to marine mammals (rod and reel, purse seine, harpoon).

Fishermen participating in Category I or II fisheries are required to be registered under the MMPA and if selected, to accommodate an observer aboard their vessels. Vessel owners or operators, or fishermen, in Category I, II, or III fisheries must report all incidental mortalities and injuries of marine mammals during the course of commercial fishing operations to NOAA Fisheries Headquarters. There are currently no regulations requiring recreational fishermen to report takes, nor are they authorized to have incidental takes (i.e., they are illegal). NOAA Fisheries does require reporting and authorizes takes by charter/headboat fishermen (considered “commercial” by the MMPA), however, no reports have been submitted to NOAA Fisheries to date.

The pelagic longline fishery is listed as a Category I fishery. Longlines are known to present potential dangers to listed sea turtles and marine mammals, and the activity of the fishery is regulated by the terms of the BiOp dated June 14, 2001, including closed areas to longline fishing and banning the use of live bait by longline vessels in the Gulf of Mexico. The Purse seine category fishery and handgear fisheries are currently listed as a Category III fisheries under the MMPA. Strict control and operations of these fishing gears means these gear types are not likely to result in mortality or serious injury of marine mammals or sea turtles.

4.0 ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

4.1 Issue One: Purse Seine Category Season Start Date

The following analysis identifies the ecological, economic, and social consequences for each alternative considered by NOAA Fisheries regarding a start date for the Purse seine category fishery. Socio-economic impacts are addressed individually under each alternative while ecological impacts follow below.

Ecological Impacts - There are minimal foreseeable ecological impacts for this issue. The change of the start date for the Purse seine category fishery is expected to have little to no effect on the BFT stock or non-target species. BFT mortality as a result of this fishery has been accounted for in ICCAT's BFT rebuilding plan, and would not change as a result of the proposed alternatives. The time period considered for the start date adjustment spans approximately three months during which BFT are generally present on their summer feeding grounds off New England. The alternatives could only impact when the fish are caught within a three month window and are not intended nor expected to change how many fish are caught overall. Since the commercial BFT fishery is focused on mature fish, there would not be any change in the life stage harvested or the location of the fishery. BFT are thought to spawn in the Gulf of Mexico in the winter months, so spawning would not be impacted. Although part of the intent of these alternatives is to enhance the Purse seine landings of BFT within a particular season any quota that still remains due to low landings would be rolled over to the following year and thus only defer mortality. The 1996 Purse seine category observer data generally showed very little inadvertently captured bycatch of non-target species. Adjusting the Purse seine category start date is not expected to change the interaction rate with non-target species or levels of bycatch.

4.1.1 Alternative One: No Action/Status Quo - Purse Seine Category Start Date Remains on August 15

Socio-economic Impacts - Under this alternative, Purse seine vessels may continue to be unable to land their full quota allocation as well as experience market overlap with landings from General category vessels resulting in lowered ex-vessel prices. The negative economic impacts of the No Action Alternative may also include lower ex-vessel prices for the General category during late summer months and early fall (September - mid October; Figure 2). Average biweekly prices for the Purse seine category tend to be lower than those for the General category during this period of overlap (Figure 2), and thus the Status Quo may proportionally negatively impact the General category more than the Purse seine category. These periods of low ex-vessel prices may be attributable to an oversupply of BFT on the market.

Positive impacts of the No Action Alternative include relatively good prices in June through July for both the Harpoon and General categories. This alternative appears to be the best alternative economically for the Harpoon category and the worst for the Purse seine and General categories. Considering the relative proportion (landings, gross revenues, and number of permits) of each sector of the BFT fishery, this alternative is expected to have a net negative economic

impact on the BFT fishery as a whole. Social impacts of the No Action Alternative may include some pressure on fishermen in the Harpoon and General category to pursue and land fish prior to the start of the Purse seine category to avoid overlapping supply on the same market.

4.1.2 Alternative Two: **Change Purse Seine Category Start Date to July 15 - Preferred Alternative**

Socio-economic Impacts - Impacts for the Purse seine category under this Alternative are predicted to be positive versus the No Action Alternative as Purse seine vessels potentially will have access to a better market and less competition with other categories for landings earlier in the season. Purse seine landings would overlap more with Harpoon category landings rather than the more voluminous General category landings of later in the season. The Purse seine category would also have the flexibility to fish over a greater time period and may be able to target periods that would maximize revenues.

Economic impacts of this alternative are predicted to be slightly negative for the Harpoon category since increased overlap with the Purse seine category fishery early in the season could result in an increase in available product on the market and potentially reduced ex-vessel prices during the period of overlap (Table 7). On average, approximately 43% of gross revenues for the Harpoon category are generated during the month of June (Table 5), and 18% more occur during the first half of July, which would not be impacted under this alternative. Thus, approximately 26% of Harpoon category revenues occur during the second half of July and first half of August (Table 5), the time period most impacted by this alternative. Later season (mid-September through October) prices should improve for all categories; however, less than 5% of Harpoon category revenues occur during this interval (Table 5), so this alternative would be expected to have a slight net negative impact on the Harpoon category.

Net General category impacts are expected to be positive since the period of potentially improved prices (September through mid-October) is expected to be longer than the period of potentially reduced prices (mid-July through mid-August) by approximately two weeks, and approximately twice as much product (53%, Table 4) is usually landed by the General category during the period of improved prices. Considering the relative size of each of the BFT fishery sectors (i.e. General category and Purse seine compared with Harpoon category), this alternative is expected to have a net positive economic impact on the BFT fishery as a whole. Social impacts under this alternative would be similar to that of the No Action Alternative in terms of balancing competing uses of the same market although within slightly different time frames. This alternative was selected as the preferred alternative because it appears to maximize positive impacts to the BFT fishery as a whole while minimizing negative impacts to the Harpoon category. It should be noted that any negative impact to the Harpoon category from this alternative could be partially mitigated by the preferred alternative for Issue 2, which would increase the tolerance limit for large medium BFT to two fish per day, in an effort to improve the ability of the Harpoon category to catch its annual quota.

4.1.3 Alternative Three: **Change Purse Seine Category Start Date to June 1**

Socio-economic Impacts - This alternative is expected to provide the most positive impact among the three alternatives for the Purse seine category by providing maximum flexibility to target good markets with corresponding improvements in ex-vessel prices. The flexibility under this alternative would also have positive social advantages for Purse seine owners and crew while planning Purse seine category operations.

This alternative is expected to have slightly greater negative impacts for the Harpoon category compared to all alternatives since the Purse seine category fishery would overlap with the Harpoon category fishery during the time period that tends to return the best prices of the year (mid-June through July, Figure 2) and accounts for an average of 66% of the annual gross revenues for this category (Table 5). Similarly to alternative two, this alternative is expected to have some negative impacts of reduced ex-vessel prices earlier in the season for Purse seine and General categories, although these impacts are expected to be mitigated by positive impacts for these categories by relieving some of the market glut that occurs during September through mid-October (Table 8). Considering the relative size of each BFT fishery sector, this alternative is expected to have positive economic impacts on the BFT fishery as a whole. Social impacts are predicted to be similar to alternative two although accentuated regarding potential negative impacts to traditional Harpoon fishermen in the New England area. This alternative was not selected because of the negative social and economic impacts to the Harpoon category.

4.2 Issue Two: Harpoon Category Season End Date

The following analysis identifies the ecological, economic, and social consequences for each alternative considered by NOAA Fisheries regarding an end date for the Harpoon category season. Ecological impacts are addressed for this issue overall below. Socio-economic impacts are addressed individually under each alternative. Implementation of an end date for the Harpoon category season would reduce the amount of time the season is open, and could be viewed as an additional impediment to this category's ability to harvest the full annual quota. However, alternatives for improving the Harpoon category's ability to harvest its quota and that may mitigate this impact, are addressed under Issue Three below.

Ecological Impacts - There are minimal foreseeable ecological impacts for this issue. The change of the end date for the Harpoon category fishery within the annual fishing season should not affect the BFT stock or non-target species. BFT mortality as a result of this fishery is accounted for in the ICCAT BFT rebuilding plan. Any quota that may not be harvested could be rolled over and added to the quota or the reserve category for the following year and thus there would not be an overall "savings" or reduction in mortality from an early season closure when considered over a multi-year timeframe. Due to the selective use of this fishing gear there is not expected to be any bycatch of non-target species, although little data are available. Although the status quo alternative could distribute the Harpoon category catch more widely through time and space information from this fishery is not used currently in scientific stock assessments.

4.2.1 Alternative One: No Action/Status Quo - Harpoon Category Fishery Remains Open until May 31

Socio-economic Impacts - Under the No Action Alternative the Harpoon category would remain open all fishing year or until the quota is attained. This could allow the development of a fishery for the Harpoon category quota outside of the New England area where the traditional fishery is located. Establishment of a new fishery in another region would contradict the HMS FMP objective of maintaining traditional fisheries and the intent of the action establishing the Harpoon category. Competition for the quota could reduce the amount of quota available to the traditional New England fishery, which would be a negative impact for the New England region. So far, a total of 1,043 lbs. have been landed against the Harpoon category quota from the southern region, which occurred in 2002 (Table 6). Although a new southern region Harpoon category fishery could provide some positive socio-economic impacts for the region; there is currently little to no investment in the necessary gear and equipment.

4.2.2 Alternative Two: Close Harpoon category season on November 15. - Preferred Alternative

Socio-economic Impacts - This alternative would reduce the opportunity for further development of a Harpoon category fishery outside of the New England area and would provide a positive economic impact to the traditional New England fishery. Although there have been minimal landings under this category outside New England (Table 9), negative economic impacts to other regions as a result of this alternative are expected to be negligible to zero due to lack of significant investment in gear and equipment for a dedicated harpoon fishery. Finally, if a fishery participant did desire to use a harpoon as the primary gear type, they could still do so under the General category regulations, which would mitigate any minor potential negative social impacts of this alternative.

On average, the New England fishery is over by the end of September although some late season landings are possible into November (Table 4). However, the potential remains for limited landings in the southern area in the event that BFT migrate out of New England prior to November 15. A minimal number of BFT could be landed outside of the New England region under this alternative (i.e. prior to November 15 outside of New England), which could have a small negative economic impact on the New England region and a small positive economic impact on the region where the fish are landed. The establishment of a fixed closure date would have positive social impacts by providing the Harpoon category with better planning opportunities and simplifying management and administration with a date certain closure. Efforts to ensure the quota remains for the traditional New England fishery would maintain the intent of the HMS FMP and the action establishing the Harpoon category.

4.2.3 Alternative Three: Establish a flexible Harpoon category end date

Socio-economic Impacts - This alternative would further reduce the opportunity for development of a Harpoon category fishery in the southern region, and is expected to decrease any potential for limited landings outside the area when compared to Alternative two. As with Alternative two, this alternative is expected to have a positive economic impact on the New

England region. Since a southern area fishery is not yet invested, there are expected to be little to no negative economic or social impacts for the southern region from this alternative. Negative impacts of a flexible closure date include the potential for more difficulty for the Harpoon category for business planning, and it would require additional administrative oversight and inseason management for NOAA Fisheries. Even with intensive management, the distribution of BFT is difficult to discern, and this alternative could not guarantee that Harpoon category BFT remain landed solely in New England.

4.3 Issue Three: General Category Season End Date

The following analysis identifies the ecological, economic, and social consequences for each alternative considered by NOAA Fisheries regarding an end date for the General category season. Ecological impacts are addressed for this issue overall below, and social and economic impacts are addressed individually under each alternative.

Ecological Impacts - There are minimal foreseeable ecological impacts for this issue, aside from the potential for improved data collection (e.g. covering a greater time-span and wider geographical area) provided by Alternatives two and three, which may in turn result in improved management and subsequent ecological benefits for BFT. A change in the end date for the General category fishery by one to six months will not ecologically impact the BFT stock or non-target species since the quota will remain the same, and the mortality from this fishery has already been accounted for in the ICCAT BFT rebuilding plan. Any quota that may not be harvested as a result of any changes in access to the fishery would be rolled over and added to the quota for the following year. Since the commercial BFT fishery is focused on mature fish, there would not be any change in the life stage harvested as a result of the change in season. BFT are believed to spawn in the Gulf of Mexico, so this fishery is not expected to impact spawning fish. The General category is a hand gear fishery mainly comprised of hook and line fishermen, and any increase in hook and line effort in the South Atlantic is not expected to result in more than minimal negative impacts to non-target or protected species.

4.3.1 Alternative One: No Action/Status Quo - General Category Season End Date Remains December 31st.

Socio-economic Impacts - Under the status-quo alternative, south Atlantic regional General category fishermen could continue to have a relatively limited opportunity (approximately mid-November to the end of December and occasionally early Spring after June 1) to fish for BFT. The fall fishery is dependent upon the availability of quota, which can be exhausted, as it was in 1998-1999, prior to the migration of BFT into this region resulting in no Fall landings in the North Carolina area (Table 9). However, for 2003 Fall landings have been particularly slow and quota is expected to be available for a southern area fishery that could extend beyond December 31.

Economically the status quo alternative could result in less gross revenues available for the southern region and more for the northern region. The loss of fishing opportunities for southern area fishermen would be a negative economic impact since fishermen in this region have created

an invested fishery by purchasing gear based on past fishing opportunities. In addition, southern area charter headboat and commercial fishing businesses would probably not be able to expand into this fishery beyond any level that has been currently established because of the uncertainty of the availability of quota from year to year. New England and Mid-Atlantic fishermen would be positively impacted under this alternative as most of the quota would be available when BFT are offshore northern states.

Further, there could potentially be a slight negative economic impact to the BFT fishery as a whole from this alternative since additional landings beyond December 31 could generate higher prices than the same fish caught at other times in the season. Higher prices for late season fish were particularly evident in the winter 2000 (Table 10), and could be the result of fewer fish on the market as well as higher quality (fat content) of the fish themselves.

4.3.2 Alternative Two: **Extend the Last General Category Subperiod through January 31 - Preferred Alternative**

Socio-economic Impacts - If quota is available, this alternative would have a positive impact on south Atlantic area General category fishermen since they would be provided with about 30 more days of fishing opportunity. This could be a negative impact for New England and Mid-Atlantic fishermen unless they are willing to travel to the south Atlantic region. Since the 2003 summer and fall fishery has been so slow, quota is expected to be available for a January 2004 under this alternative, and thus impacts to southern and northern area fishermen would apply. As discussed above, it is unlikely that charter headboat and commercial fishing businesses would be able to expand into this fishery dramatically beyond any that are already established because of the uncertainty associated with the annual availability of quota for this region. Extending the season could have slight positive economic impacts to the BFT fishery as a whole due to the relatively higher ex-vessel prices of BFT landed during the end of the calendar year. This alternative was chosen since it provided positive impacts to Southern area General category fishermen while minimizing impacts to General category fishermen of other regions, with the additional potential of positively impacting the BFT fishery as a whole. Although this alternative partly addresses comments to provide a more certain southern Atlantic BFT fishery, it may not fully address public comment to also allocate a specific quota to a southern Atlantic fishery. Thus the social impacts of this alternative are expected to be slightly positive but overall impacts are uncertain.

4.3.3 Alternative Three: **Extend the Last General Category Subperiod through May 31**

Socio-economic Impacts - If quota is available, this alternative could have the greatest positive impact on south Atlantic area General category fishermen since this alternative would provide the greatest fishing opportunities for this region of all the alternatives considered. Positive impacts under this alternative could exceed alternative two because of the greater time period involved; however, the likelihood of quota being available for either of these alternatives is uncertain. Again, it is unlikely that charter headboat and commercial fishing businesses would be able to expand into this fishery beyond any that are already established because of the uncertainty associated with the annual availability of quota for this region. Social and economic impacts are

predicted to be negative for New England and Mid-Atlantic fishermen unless they are willing to travel to the south Atlantic region. If quota is available, this alternative could have the greatest positive impact to the national economy because of the limited domestic product available in the winter months. Prices could be quite high during time periods that aren't traditionally fished, and, at least for the early winter, BFT should have relatively high fat content; however, little market information is available. The quality of BFT based on fat content is expected to decrease during migrations after late season foraging, so ex-vessel prices could decline at some point, though the limited amount of product on the market could be a mitigating factor. As with alternative 2, this alternative partly addresses comments to provide a more certain southern Atlantic BFT fishery, but it may not fully address public comment to also allocate a specific quota to a southern Atlantic fishery. Thus the social impacts of this alternative are expected to be slightly positive but overall impacts are uncertain.

4.4 Issue Four: Retention of Large Medium BFT by Purse Seine and Harpoon Categories

The following analysis identifies the ecological, economic, and social consequences for each alternative considered by NOAA Fisheries regarding retention of large medium BFT by the Purse seine and Harpoon category fisheries. This issue is analyzed in response to economic and social concerns that quota remains unharvested in both the Harpoon and Purse seine categories and the potential for an increase in optimum yield if vessels were allowed access to this size class. As overall quotas are not proposed to be adjusted, total weight of BFT harvested will remain the same for each alternative, but fishing mortality may vary somewhat due to the difference in average weight of the size classes. The ecological impact of most concern for this issue is the relative effect of each alternative on the large medium size class. As discussed in section 3.0, the large medium size class represents pre-spawning BFT about to reach maturity. The number of fish comprising this size class includes the results of the particularly strong 1995 and 1996 year class. Large medium landings in the General category have steadily increased relative to the giant size since 2000 (Table 11). Each alternative analyzed below alters the retention allowance of large medium BFT for each category by a set percent or number. Potential impacts of each alternative to the BFT stock are summarized in Table 12, which predicts the number of large medium and giant BFT that could be harvested under each alternative, assuming the maximum number of large medium BFT are landed.

Another ecological impact of concern for this issue is the effect of the alternatives on discards of undersized BFT by each fishery sector. Purse seine category fishermen have reported that homogenous schools of giant BFT have been difficult to locate because of the prevalence of the large medium size class, and that discards would decrease with greater access to this size category. However, there are little available data regarding the present rate of discards or any discard associated mortality in either the Harpoon or Purse seine category. The preferred alternatives include provisions regarding implementation of a logbook or observer program in order to collect more information on this issue for use in future rulemaking.

4.4.1 Alternative One: No Action/Status Quo - No Change to Tolerance Limits for

Large medium BFT by Harpoon & Purse Seine Categories

Ecological Impacts - Under the No Action/Status Quo the Harpoon category currently lands approximately 26 percent of its quota as large mediums under the one large medium per trip tolerance level. Using the 2003 standard baseline quota this equals approximately 137 large medium BFT. Under current regulations the Purse seine vessels are not allowed to land more than 10 percent of any allocated quota as large mediums which equals approximately 251 large medium BFT. Under this alternative the approximate total number of fish that could be harvested by the Purse seine and Harpoon categories in 2003 is 1,604 total BFT (Table 12). (Since this is an estimation and not an exact figure, it should only be used to indicate a degree of relative magnitude for comparison purposes with the other alternatives). Even though Purse seine and Harpoon category fisheries may continue to have difficulty catching their annual quota, any unused quota may be rolled over to the following year, so there would not be any positive impacts for the BFT stock related to unharvested quota. However, by maintaining the current tolerance limits, the unharvested BFT may have an additional opportunity to spawn and the intent of the current regulations to protect immature fish would be maintained. Finally, this alternative is consistent with the ICCAT rebuilding plan, which requires a minimum size limit of 47".

Both the Harpoon and Purse seine categories are thought to be gear types with minimal bycatch of undersized BFT or non-target species; however, little data on this issue are available. Under this alternative however there is an increasing likelihood of discarding large medium BFT due to the growing relative abundance of this size class.

Socio-economic Impacts - The primary potential impact of this alternative is the continued inability of the Purse seine and Harpoon categories to catch their annual quota. Although a rollover of quota to the following year is available, continuous rollovers may result in an annual reduction in gross revenues for participating vessels. For example, uncaught quota in the Purse seine category fishery in 2002 equaled 110 MT with an approximate value of \$1,610,253 (using an average price for Purse seine landings in 2002 of \$6.64/lb). In the harpoon category, uncaught quota for 2002 equaled 20.2 MT with an approximate ex-vessel value of \$303,715 (using an average price for Harpoon landings in 2002 of \$6.82/lb). In addition, net revenues may decrease if search time and thus fuel expenditure etc. increases.

4.4.2 Alternative Two: Remove Purse Seine Category Retention Restriction for Large Medium BFT In Excess of 10% of Annual Vessel Quota

Ecological Impact - This alternative could increase the number of large medium BFT landed by the Purse seine category from the No Action alternative by approximately 125 fish annually with a corresponding decrease in the number of giants landed by 57 fish to a revised total mortality of 1,672 BFT (Table 12). Because of the uncertainty in age at spawning, and thus the potential that large medium fish are pre-spawners, removal of 125 additional large medium fish from the BFT stock may reduce spawning potential slightly compared to the status quo although overall mortality in numbers of fish will only increase by 68 fish compared to the No Action alternative. Negative impacts of dead discards and bycatch could be somewhat reduced if fewer

purse seine sets were necessary and fewer large medium BFT had to be released.

Socio-economic Impacts - This alternative could assist Purse seine category fishermen in catching their quota since they would be able to more readily set on mixed schools of fish as long as they stayed under the 15 percent per trip tolerance limit. Since this alternative retains the 15 percent per-trip tolerance, Purse seine category fishermen would have to ensure that each trip did not exceed the tolerance limit. Under this alternative gross revenues may increase if it assists full attainment of quota and net revenues may increase if time spent looking for homogenous schools is reduced, fewer sets become necessary, and sets require less effort since fewer undersized BFT have to be released.

4.4.3 Alternative Three: Remove per Trip Purse Seine Category Retention Restriction for Large medium BFT and Increase the Annual Limit to 15% of Vessel Quota - Preferred Alternative

Ecological Impacts - This alternative quantitatively is expected to have the same biological impacts as Alternative two (i.e. increase slightly the number of large mediums landed, and decrease the number of giants landed) with an overall increase of approximately 68 BFT over the Status Quo. Therefore the ecological impacts of Alternative two and three are expected to be approximately the same. As described under alternative two, removal of 125 additional large medium fish from the BFT stock may reduce spawning potential slightly compared to the status quo, although overall mortality in numbers of fish will only increase by 68 fish compared to the Status quo alternative. Again, like alternative 2, negative impacts of dead discards and bycatch could be somewhat reduced if a reduction in fishing effort occurs because of fewer purse seine sets and reduction in large mediums that have to be released. However, the increase in flexibility for the Purse seine category fishing operation resulting from the removal of a per-trip tolerance under this alternative could result in fewer purse seine sets and a slightly greater positive effect of a reduction in bycatch.

Socio-economic Impacts - This alternative would allow Purse seine category fishermen more flexibility in their operations than the previous alternatives by providing annual rather than trip tolerance limits. Under this alternative, Purse seine category fishermen could mitigate a trip with a greater number of large medium BFT by targeting giants in another trip, or vice-versa. The increased flexibility provided by this alternative is expected to positively impact Purse seine category fishermen's ability to harvest the entire quota annually, with subsequent increases in gross and net revenues. Waiving the per trip requirement may have an impact on monitoring and enforcement as compliance with the revised tolerance limit will only take place at season's end using data already submitted to the database. Although this alternative would reduce burden on vessels in the short-term, there could be increased burdens if follow up enforcement action is necessary that could otherwise have been avoided. Purse seine vessel operators keep close watch over their vessel landings to ensure compliance with quota and landing restrictions and thus any administrative or enforcement negative impacts from this alternative are unlikely.

This alternative would implement a pre-approved logbook program to collect information

on discards. Logbook programs have been found to have negligible economic impacts. Depending on the results of the logbook program, an observer program may also be implemented in the future, which may have economic impacts depending on how observers are deployed. Data from observers would be used for the benefit of the overall fishery and stock in the future.

4.4.4 Alternative Four: Change minimum size for Purse Seine Category to 73"

Ecological Impacts - Under this alternative all trip and annual size tolerances would be eliminated with a minimum size of 73" allowing full access to the large medium BFT size class. Assuming the entire quota is attained with landings of large medium BFT, there is a potential for over 2,500 large medium BFT to be landed, or an increase in mortality of 2,262 large medium over the No Action alternative. Under this alternative there would also be a corresponding decrease in mortality of giants, from over 1,000 fish to zero. This alternative could potentially remove large numbers of immature fish from the BFT stock, and have the greatest negative biological impacts of the alternatives discussed. Impacts on discards are uncertain as now Purse seine vessels would be exclusively targeting BFT greater than 73" and discards may now increase on fish less than 73".

Socio-economic Impacts - This alternative provides the most positive economic impacts for the Purse seine category of all the alternatives since it would allow the greatest flexibility in landing large medium BFT and thus provide the greatest opportunity for Purse seine category fishermen to harvest their full quota annually. Net revenues are also expected to increase relative to the previous alternatives since search time and related expenses could be reduced. Fishing under this alternative would be easier for Purse seine category fishermen since they would not have to project the number of large medium BFT they could retain. Purse seine category gross revenues and net revenues are expected to increase under this alternative. This alternative could simplify management by establishing the same minimum size limit as the General category.

4.4.5 Alternative Five: Increase the Harpoon Category Tolerance for Large mediums to Two BFT per Day - Preferred Alternative

Ecological Impacts - Under this alternative, Harpoon category landings of large medium BFT are predicted to double over that of the status quo to approximately 274, mitigated somewhat by a corresponding decrease in the number of giants landed from 179 to 115 fish (Table 12). This alternative is expected to have slight negative impacts due to the removal of a greater number of large medium BFT over the Status Quo, that may decrease spawning potential and subsequently have negative impacts on the stock. Although little data are available, it is believed that the

selective nature of this gear type has minimal impact on discards or interactions with non-target species.

Socio-economic Impacts - This alternative is expected to positively impact Harpoon category fishermen since they will be able to retain a greater number of large medium BFT which appear to be more available than in the recent past. The retention of one more large medium BFT per vessel per day is expected to somewhat increase the Harpoon category's ability to harvest the

quota and result in a small increase in gross revenues. Furthermore, a small positive impact to net revenues may accrue if the amount of time spent searching for fish is somewhat reduced.

Under this alternative the implementation of a pre-approved logbook and/or observer program to collect information on discards is considered for the future but not proposed at this time. Logbook programs have been found to have negligible economic impacts. An observer program may have an economic impact; however, the collected data could be used for the benefit of the fishery and stock in the future.

4.4.6 Alternative Six: Change Minimum BFT Size for Harpoon Category to 73"

Ecological Impacts - Under this alternative, the entire quota could be attained with BFT from the large medium size class resulting in a mortality of 527 fish or an increase in 390 fish over the No Action alternative (Table 12). This alternative would have greater negative ecological impacts to the stock than Alternative Five due to the removal of more large medium fish as well as overall number of fish from the BFT stock. If the minimum size is reduced to 73" the impacts on discards are uncertain as potentially some fish less than 73" could be killed and would have to be discarded with no tolerance for landings of fish under 73".

Socio-economic Impacts - This alternative would be the most positive for the Harpoon category since it could further assist in landing the full annual Harpoon category quota by increasing the number of fish available for harvest. Gross revenues are expected to increase and net revenues may increase if fishing effort (e.g. time spent looking for fish) is reduced. This alternative could also simplify the management regime by establishing the same minimum size as the General category.

4.4.7 Alternative Seven: No Tolerance for Retention of Large medium BFT in Harpoon and Purse Seine Categories.

Ecological Impacts - Similar to Alternative Four for the Purse seine category and Alternative Six for the Harpoon category, this alternative would also remove all tolerance limits but in contrast to all the alternatives above, it would raise the minimum size to 81", effectively restricting the Harpoon and Purse seine fisheries to giants only. This alternative is expected to have positive biological impacts by not only reducing mortality of large medium BFT to zero, but reducing overall mortality to 1,394 fish, a decrease of 210 from the No Action alternative (Table 12). This alternative would provide the greatest protection to the immature fish with positive consequences for the stock and the rebuilding plan. Without tolerance limits in either category it is possible that discards would increase in both categories since fewer BFT would be available for harvest. Fishermen may resort to pursuing fish in mixed schools or very close to the minimum size limit which would have to be released or discarded upon capture and measurement.

Socio-economic Impacts - This alternative could have negative economic impacts on both categories as it could further reduce the ability of Purse seine category fishermen and Harpoon category fishermen to fully exploit the respective annual category quotas. Gross revenues are

expected to decrease and net revenues may decrease further if fishing effort is increased in order to locate homogenous schools of giant BFT.

4.5 Impacts on Essential Fish Habitat

The Magnuson-Stevens Act established a program to promote the protection of EFH in the review of projects conducted by Federal agencies, or under Federal permits, licenses, or other authorities that affect or have the potential to affect such habitat. After the Secretary has identified EFH, Federal agencies are obligated to consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any EFH. In the HMS FMP, NOAA Fisheries concluded that there is no evidence that physical effects caused by fishing for HMS are adversely affecting EFH to the extent that detrimental effects can be identified on the habitat of fisheries. As this action would not alter fishing gears or practices, it is anticipated that this action would not have any adverse impacts to EFH.

4.6 Impacts on Protected Species

The preferred alternatives in this Draft EA/RIR/IRFA would not be expected to change endangered species or marine mammal interaction rates or magnitudes, substantially alter current fishing practices, or bycatch mortality rates. On June 14, 2001, NOAA Fisheries issued a BiOp after concluding formal consultation for the HMS fisheries under Section 7 of the ESA. The BiOp concluded that the pelagic longline fishery is likely to jeopardize the continued existence of threatened or endangered species. NOAA Fisheries has implemented the reasonable and prudent alternatives from the BiOp, and the preferred alternatives from this Draft EA/RIR/IRFA are consistent with, and would not adversely affect, NOAA Fisheries' actions to implement the reasonable and prudent alternatives required by the BiOp. The preferred alternatives of this Draft EA/RIR/IRFA do not include or impact pelagic longline operations, would not likely increase takes of listed species, nor foreclose the use of other alternatives for managing HMS fisheries and reducing adverse impacts on protected resources. Finally, as a result of the BiOp, the continued operation of the purse seine and handgear fisheries as a result of this action may adversely affect, but is not likely to jeopardize, the continued existence of any endangered or threatened species under NOAA Fisheries jurisdiction.

4.7 Environmental Justice Concerns

Executive Order (E.O.) 12898 requires that federal actions address environmental justice in the decision-making process. In particular, the environmental effects of the actions should not have a disproportionate effect on minority and low-income communities. The proposed actions in this document would not have any effects on human health nor are they expected to have any disproportionate social or economic effects on minority and low-income communities. Any social or economic impacts are expected to be slightly positive because the proposed actions relieve restrictions, provide economic opportunities and, in the case of the Harpoon category closure date,

propose action before an investment in the fishery takes place.

4.8 Coastal Zone Management Act (CZMA)

NOAA Fisheries has determined that these proposed regulations are consistent to the maximum extent practicable with the enforceable policies of those coastal states in the Atlantic, Gulf of Mexico, and Caribbean that have approved coastal zone management programs. Letters will be sent to those states for their concurrence.

4.9 Comparison of Alternatives

Table 13 summarizes the determinations made above regarding ecological, social and economic impacts of all the various alternatives, organized and subdivided by issue. A brief summary of the legal and administrative issues is also provided. As set forth above, no Environmental Justice (EJ) or CZMA issues were identified.

4.10 Cumulative Impacts

In the recent past, the 1999 HMS FMP adopted ICCAT's 20-year stock rebuilding program for western Atlantic BFT. The FEIS for the HMS FMP concluded that the cumulative long-term impact of the final actions, which included the BFT rebuilding program, would be to establish sustainable fisheries for Atlantic HMS. Since then there have not been any past actions that impact the issues considered under this action. Present regulatory actions include the recent publication, in July 2002, of a final rule and Final Supplemental Environmental Impact Statement (FSEIS) to implement a June 14, 2001, BiOp that addresses reduction of sea turtle bycatch and bycatch mortality in HMS fisheries. Some of the measures adopted in the action are expected to have positive, but varying degrees of, direct, indirect, and cumulative impacts on protected species populations.

In the foreseeable future, NOAA Fisheries plans on preparing an HMS FMP amendment regarding the BFT fishery (68 FR 40907, July 9, 2003) as well as gathering results from the NED Experimental Fishery. As part of the FMP amendment, NOAA Fisheries will consider further the Petition for Rulemaking from the State of North Carolina. The current action does not explicitly provide a subquota and season for a winter commercial hand gear fishery. However, this action proposes to address short-term economic and social impacts on fishermen in south Atlantic states through an extended General category season, in combination with the restricted fishing day schedule in the 2003 BFT Fishery specifications published on October 2, 2003 (68 FR 56783), designed to ensure General category quota is available late in the season. The current action would be consistent with future rulemaking activities, and would provide useful information regarding fishing effort and landings (including incidental catch) of BFT that could be used in the development of these future activities and analyses. Any future actions taken in regard to the BFT fishery would remain within the scope of ICCAT Recommendations as well as established BFT total allowable catch.

Overall, the alternatives considered in this EA/RIR/FRFA, which include adjusting the Purse seine category start date, adjusting the Harpoon category end date, adjusting the General category end date and adjusting the retention limit for large medium BFT in the Harpoon and Purse seine category fisheries, are not expected to substantially change current fishing practices or cause impacts not previously addressed in the HMS FMP's Revised FEIS and the July 2002, FSEIS for sea turtle bycatch or the proposed BFT specifications. As described earlier in this section, ecological impacts for adjustments to the seasons for the Purse seine, Harpoon and General category are expected to be minimal to none since overall quotas will not change and the management program is within the bounds of the ICCAT rebuilding plan. The combined ecological impacts for the two preferred alternatives for tolerance limits for large mediums in the Purse seine and Harpoon category fisheries would be an increase in harvest of large mediums of 239 fish and a decrease in harvest of giants of 121 fish with an overall increase in harvest of number of fish by 118 fish. This could result in a minor reduction in spawning potential for the BFT stock. Economically, the preferred alternatives discussed in this EA/RIR/IRFA for the four issues are expected to result in an overall improvement in attaining optimum yield in the BFT fishery, and increases in gross revenues for the BFT fishery as a whole. Although the preferred alternative for the Purse seine category start date may result in some negative impacts for the Harpoon category, these will be somewhat mitigated by the proposed increase in tolerance limit for large medium BFT and improved ability for the Harpoon category to attain its annual quota. Thus, NOAA Fisheries considers that this action is consistent with past and current actions, and anticipates that it also will be consistent with future actions with no substantial adverse, cumulative impacts on the environment from the preferred alternatives.

5.0 MITIGATION AND UNAVOIDABLE ADVERSE IMPACTS

5.1 Mitigating Measures

No significant adverse environmental impacts are expected to result from the preferred alternatives in this proposed rule. The selected preferred alternatives have little or no environmental impact. There is potential that some of the non-selected alternatives regarding the increase in tolerance for large medium BFT could result in an increased number of large medium BFT harvested and some degree of loss of reproductive potential; however, the BFT stock is closely monitored and any detectable adverse impacts could be addressed. In addition, all proposed alternatives are well within the bounds of the ICCAT rebuilding plan. The Harpoon category may be negatively impacted by the change in Purse seine category season start date; however, the proposed increase in tolerance limit for the Harpoon category may somewhat mitigate this negative impact as it is expected to increase this sector's ability to harvest the annual quota.

NOAA Fisheries recognizes that several outstanding social and economic issues remain unaddressed in this action, such as the specific request for a time-period subquota of BFT in the Petition for Rulemaking by the State of North Carolina. However, concurrent rulemaking will provide the opportunity to address these issues and propose mitigating measures should NOAA Fisheries deem appropriate. In the immediate term, the proposed alternative to extend the General

category season will assist address several of the issues raised in the Petition, namely an extended fishery through January. Since NOAA Fisheries will continue to monitor the fishery, any unpredicted increase in effort and landings of BFT, should they occur, could be addressed within a fishing season with an inseason action or rulemaking.

5.2 Unavoidable Adverse Impacts

There are no unavoidable adverse impacts from this proposed rule.

5.3 Irreversible and Irretrievable Commitment of Resources

No irreversible or irretrievable commitments of resources are expected from this proposed rule.

6.0 ECONOMIC EVALUATION

This section and subsections provide further detail, economic analyses and background to support the conclusions and determinations made in Section Four regarding economic consequences of the alternatives and in the sections below regarding the RIR (Section 7) and IRFA (Section 8). The analyses focus on the impacted sectors of the fishing industry, namely the BFT Purse seine, Harpoon, and General categories by subject area; prices and markets, individual participation, gross revenues and processing and export.

6.1 Prices and Markets

The ex-vessel price of BFT in the United States has increased substantially over the past two and a half decades, from roughly \$0.20 per pound to prices between \$5.00 and \$7.00 per pound in 2002 depending on fishing category (Table 14). This long-term increase is largely attributed to increased demand for fresh BFT in Japan, the principal consumer of U.S. BFT. Many factors, including the yen/dollar exchange rate, market supply and demand, product quality, packing and transport costs, and U.S. fishery effort controls may affect ex-vessel prices. The role of the Japanese market, product quality and market structure considerations in the determination of BFT prices is discussed in greater detail in the HMS FMP.

Ex-vessel prices have varied over the years and among categories. Average annual ex-vessel price per category was lower in 2002 than for 2001, which was generally lower than 2000 (Table 14). This apparent drop in price may be due to the appreciation of the dollar relative to the yen over the last several years and lingering problems with the Asian economy, as well as market supply conditions in Japan. Among the categories within the past several years, average annual General category prices appear to have been higher, and peaked in 2000 at \$9.46/lb (Table 14). This may have been due to slower General category catch rates over the past several years and subsequent pacing of the supply onto the Japanese markets under favorable market conditions.

Prices frequently vary between fishing categories (Figure 2). Market conditions influence this variability to a great degree. Harpoon and General categories frequently get higher ex-vessel prices because fewer fish are harvested per trip and the product may be well cared for. Purse seine category catches may receive lower ex-vessel prices because of the quantity of fish landed at once as much as the quality of the product. In addition, Purse seine category fishermen frequently negotiate with dealers to establish a price prior to sailing.

There appear to be three seasonal trends in ex-vessel prices. Prices appear to be high early in the season for all categories and rise again for the General category late in the season (Figure 2). Another seasonal trend appears to be a price drop for the General category that occurs on average over the years after the Purse seine category start date (Figure 2). General category prices drop in 1999 and 2000 (Figure 3) although this is not a consistent annual trend. The third seasonal trend that appears is the previously illustrated seasonal rise in General category landings (Table 4) that corresponds to low General category seasonal prices during September through mid-October (Figure 2). This is to be expected given market forces of supply and demand and illustrates the

complexity of supply-side market considerations for each category in isolation as well as combined. Prices for the Purse seine category appear to remain fairly stable and below both Harpoon and General category prices.

Supply-related price differentials have implications for three of the issues considered in this document, including the Purse seine category start date, the Harpoon category end date, and General category end date since the temporal distribution of these fisheries is likely to impact product supply. Of these issues, the Harpoon category end date impacts supply-related price differentials the least. The Harpoon category is contributing very little, if any, product to the market around the Harpoon category closure dates considered in this proposal, i.e. November 15.

The current General category end date closes the season when fish have recently been available to southern area fishermen. Higher fall prices and the southward migration of BFT can combine to provide southern General category fishermen with access to a valuable market. Average prices for BFT landed south of the Virginia/North Carolina border compare favorably with those from northern states over the past five years (Figure 4). There is a strong potential for these prices and overall revenues to increase considerably if more of these landings occur later in the season given the trend for higher General category prices at the end of the calendar year (Figure 2).

Consideration of supply-related price trends is also pertinent for the Purse seine category season start date. Currently the bulk of Purse seine category landings occur between September through mid-October, whereas the bulk of General category landings occur between the beginning of September and the end of October (Table 4). On average, the overlapping time periods of August 15 through October 15, correspond with some of the lowest average General category prices (Figures 2 and 3).

Harpoon category prices seem to be less influenced by the apparent impact of the Purse seine category start date, evidently because the seasons overlap to a lesser degree (Table 4). After initial Purse seine category EFP fishing during 2002, the price for Harpoon category fish fell by over \$1.00 per pound (Figure 5).

The remaining issue, the retention of large medium BFT by Harpoon & Purse seine categories, may also be pertinent in this discussion of ex-vessel prices, since it has been reported that a weakened Japanese economy may favor BFT in the size range of 250-400 lbs. Thus, higher price per pound could be available for smaller fish because of the reduced per-fish investment necessary for these smaller fish. However, this relationship is not apparent in an evaluation of average ex-vessel prices for this size class by the commercial fishery categories studied (Table 15).

6.2 Ex-vessel Gross Revenues

Before discussing trends in gross revenues, it should be emphasized that these trends would not necessarily apply to net revenues. Individual vessels may have experienced changes in net revenue that do not parallel gross revenues reported for their fishing category due to variation in costs. For example, an owner may have been forced to perform major repairs on a vessel in one

year, or could have landed fish during relatively poor market conditions. Given the lack of data, particularly regarding cost information, it is difficult to draw conclusions concerning net revenues (or profits) to fishermen. Limited analysis of costs associated with estimating net revenues was developed for the HMS FMP. Per trip cost estimates for each of the permitted categories were derived as follows: General category at \$516/trip, Harpoon category at \$488/trip, and Purse seine category \$1,750 per day or \$10,580 per metric ton. The need for additional socio-economic data is highlighted in the section of the HMS FMP pertaining to HMS science and research.

Annual ex-vessel gross revenues from recorded sales of BFT in all commercial categories for 1996-2002 are presented in Table 16. General category ex-vessel gross revenues have grown fairly steadily since 1998, peaking in 2001 at almost \$16 million, and then dropping in 2002 to almost \$14 million. These rising revenues can be explained by steadily increasing landings from 1996 in the General category that also reached a high in 2001 of 933 mt (Table 3), despite fluctuating prices in the General category over the same time-period (Table 14). A portion of General category revenues are attributable to the Charter Headboat category, for which limited economic information is available. Gross revenues for charterboat trips for BFT can be estimated at approximately \$5.3 million for 1997, by applying the cost of a charterboat trip presented in the HMS FMP to the estimated number of BFT directed trips (38 percent of 2,527 HMS directed trips) identified in the HMS FMP. These revenues come to about 25 percent of the total gross revenues for all other BFT categories combined, and are probably an underestimate since the value of commercially sold BFT are not included.

Annual gross revenues for the Harpoon and Purse seine categories have fluctuated over the last five years (Figure 6) with some correspondence to annual landings for these categories (Table 3). Both landings and gross revenues for each of these categories were relatively low in 2002. The same held true in 2001 for the Purse seine category; however, the Harpoon category had higher than average gross revenues in 2001, which appears to relate to a peak in landings for that year (Table 3).

The greatest percentage of average annual gross revenues for the Harpoon category are generated early in the season (Table 5). On average, the month of June produced about 43 percent of gross revenues for the last five years, with 18 percent more during the first half of July and 20 percent during the second half of July. By August 1st, 81 percent of the annual gross revenues have been generated for this category on average. In 2001 and 2002, landings and gross revenue were spread out over a longer time period (Table 5).

6.3 BFT Fishery Participation

A complete description of participation rates in the BFT fishery is provided in the HMS FMP and is not repeated here. Table 1 provides the current number of permits by category in the BFT fishery and Table 2 provides a summary of patterns of fishing activities. Section 3.2 describes the General category, Purse seine, and Harpoon category fisheries impacted by this action.

6.4 BFT Processing and Export

The HMS FMP includes a detailed discussion regarding the export, import, and re-export trade program and market for BFT. Total landings and annual U.S. ex-vessel prices for BFT are noted above. As the majority of the domestic BFT are exported, the value of exports would have tracked landings. Table 14 shows average ex-vessel price by commercial quota category.

6.5 Expected Economic Impacts of the Alternatives

Below is a brief summary of potential economic impacts for each alternative, grouped by issue, as set forth in Section 2. It is difficult to assess precise economic impacts for these alternatives since fishery markets are affected by so many variable factors, as described in Section 6.1. However, this document attempts to draw some general conclusions regarding potential impacts based on the information available.

6.5.1 BFT Purse Seine Category Start Date

Alternative One: Status Quo/August 15 Start Date - Under this alternative, Purse seine and General category vessels experience market overlap that appear to result in lowered ex-vessel prices from September to mid-October for these categories (Figure 2) because of an oversupply of BFT on the market. This period accounts for approximately 53% of General category landings and 68% of Purse seine category landings. Average biweekly prices for the Purse seine category tend to be lower than those for the General category during this period of overlap, so this alternative may proportionally negatively impact the General category more than the Purse seine category.

Positive impacts of this alternative include relatively good prices in June through July for both the Harpoon and General categories. During this period, the Harpoon category accrues an average of over 80% of its gross revenues (Table 5). This alternative appears to be the best alternative economically for the Harpoon category and the worst for the Purse seine and General categories. Considering the relative proportion (landings, gross revenues, and number of permits) of each sector of the BFT fishery, this alternative is expected to have a net negative economic impact on the BFT fishery as a whole.

Alternative Two: July 15 Start Date (preferred) - Opening the Purse seine category season on July 15 (Alternative 2) is expected to improve ex-vessel prices for both the Purse seine category and the General category by relieving the apparent market glut that occurs during September through mid-October, as discussed in Section 6.1. To estimate the effect a change in start date may have on the distribution of landings for the impacted fishing categories, average biweekly Purse seine category landings from Table 4 were assigned to a two-week time bin relative to the beginning of the Purse seine category season (e.g. August 16-31= week1, September 1-15= week2, etc.)³. Purse seine landings were then re-assigned to the appropriate two-week time bin based on

³Purse seine landings during July were excluded for this estimation since they were conducted under special circumstances with an EFP.

the proposed new Purse seine start date for alignment and comparison with the other categories (Tables 7 and 8). This methodology assumes past patterns and landings rates for the Purse seine category remain constant regardless of start date, which may not be realistic, but serves to show the relative magnitude and potential impacts and change in overlap with other categories. Under the July 15 start date for Alternative 2, the overlap of the Harpoon category season with the Purse seine category season would increase by about 30 days. Fishery-wide landings for the second half of July would increase by about 125 thousand pounds. Landings increases of this magnitude (Table 7) could be associated with decreases in ex-vessel prices (Figure 2). On average, the Harpoon category lands about 20% of annual gross revenues during this time period, and a decrease in ex-vessel price would potentially result in a decrease in gross revenues for this category. Prices during the months of September through mid-October could increase and mitigate these negative impacts; however, on average less than 5 percent of overall gross revenues for the Harpoon category are generated during this time period and any increase in price would not appear to offset the potential overall loss from earlier in the season.

Under this alternative, the General category and Purse seine category may experience relief from the lowest prices of the season usually associated with a six week period including the month of September through mid-October, when fishery-wide landings exceed 400 thousand pounds per biweekly period (Tables 4 and 6). The change in Purse seine category season would not create any additional overlap with the General category season, though General category ex-vessel prices would probably decrease for the four week period from mid-July through mid-August relative to the status quo because of the increase in landings during this period. The exact overall effect on gross revenues for the General category is difficult to predict. In general, prices for the General category are expected to improve during the six week period when peak landings occur, and decrease during a four week period when there are fewer landings for this category. So overall, this alternative is expected to have a positive impact on the General category, which is the largest sector of the fishery. Impacts on Purse seine category prices are expected to be similar to those for the General category, and, based on the relative sizes of the BFT fishery sectors, the net effect on the BFT fishery as a whole is expected to be positive.

Alternative Three: June 1 Start Date - Opening the Purse seine category season on June 1 (Alternative 3) is expected to improve ex-vessel prices for both the Purse seine category and the General category by relieving the apparent market glut that occurs during September and October, as discussed in Section 6.1. Using the forecasting methodology described under alternative 2, overall landings during the months of June and July are expected to increase (Table 8), with an expected decrease in ex-vessel prices for all categories. Landings from August through mid-October are expected to decrease compared to the status quo, and prices are expected to improve. Overall, this alternative could result in the greatest consistency in the available quantity of product on the market.

A June 1 start date for the Purse seine category could cause an overlap of 100 percent with the Harpoon category fishery, including overlap with the time period that tends to return the best prices of the year (mid-June through July, Figure 2) and that accounts for an average of 66% of the annual gross revenues for this category (Table 5). Since the Harpoon category fishery occurs

chiefly during June and July, it is unlikely that it would benefit from any price increase associated with reduced later season landings. Gross revenues for the Harpoon category are expected to decline more under this alternative than alternative 2. As discussed under the previous alternative, the overall effect on gross revenues for the General and Purse seine categories are expected to be positive; however, any difference between alternatives 2 and 3 to these sectors is uncertain. Negative impacts to the Harpoon fishery are greater under this alternative, however; this alternative is expected to provide positive impacts to the BFT fishery overall.

6.5.2 BFT Harpoon Category Season End Date

Alternative One. Status Quo/No Closure Date - Under this alternative the Harpoon category would remain open all fishing year or until the quota is attained, which could allow the development of a fishery for the Harpoon category quota outside of the New England area where the traditional fishery is located. Competition for the quota could reduce the amount of quota available to the traditional New England fishery, which would be a negative impact for the New England region. So far, a total of 1,043 lbs. has been landed against the Harpoon category quota from the southern region, all in 2002, which would account for approximately \$ 7113 in gross revenues. Although a new southern region Harpoon category fishery could provide some positive economic impacts for the southern region, it would negatively impact the traditional New England fishery.

Alternative Two: November 15 Closure Date (preferred)- Closing the Harpoon category season on November 15 is intended to prevent landings under the Harpoon category quota after BFT have migrated out of the area of the traditional New England fishery. This is expected to have a positive economic impact on the New England area since other regions would be excluded from participating in this category. Overall economic impacts to the nation are expected to be minimal since the overall quota remains the same. Although ex-vessel prices for General category tend to be higher after October (Figure 2), BFT are less susceptible to harpoon gear at this time of the year, and only within the last year or so have any been landed beyond the summer months (Table 4).

In 2002, BFT were landed under the Harpoon category in North Carolina (Table 6). Since there is currently little investment in Harpoon gear and equipment in the south, economic impacts to the south Atlantic area from this alternative are expected to be from negligible to zero. Moreover, harpoon gear is permitted for use in the General category, so any minimal investment that has been made in harpoon gear could be utilized in the General category. Occasionally BFT are available in the southern region prior to November 15 (Table 9) so there may be some opportunity for southern fishermen to fish under the Harpoon category quota under this alternative, with subsequent economic benefits to adjacent communities. Any quota landed in the southern region prior to November 15 would not be available to the traditional New England harpoon fishery by way of a transfer to the following year's quota, which could be a negative impact to the New England region. However, this alternative would greatly reduce the potential for expansion of a Harpoon category fishery in the southern area with associated potential negative effects on the traditional fishery.

Alternative Three: Flexible Closure Date - The purpose of this alternative is to build on Alternative two (see above), further tuning the closure dates to avoid the potential of any harvest outside of the area of the traditional New England fishery. The economic impacts would be the same as those expected for Alternative 2; however, the potential for any revenues outside the area of the traditional fishery would be further reduced.

6.5.3 BFT General Category Season End Date

Alternative One. Status Quo/End General Category Season on December 31 - Under this alternative, south Atlantic regional General category fishermen could continue to have a relatively limited opportunity (approximately mid-November to the end of December and occasionally early Spring after June 1) to fish for BFT with associated economic benefits (Table 9). The fall fishery is dependent upon the availability of quota, which can be exhausted, as it was in 1998-1999, prior to the migration of BFT into this region. A Fall fishery in the southern region occurred in the years 2000-2002 and resulted in North Carolina landings that varied by year and were valued at an average of \$961,571 annually. For 2003, Fall landings have been particularly slow and quota is expected to be available for a southern area fishery that could extend beyond December 31.

Economically this alternative could result in less gross revenues available for the southern region and more for the northern region. The loss of fishing opportunities for southern area fishermen would be a negative economic impact since fishermen in this region have created an invested fishery by purchasing gear based on past fishing opportunities. In addition, southern area charter headboat and commercial fishing businesses would probably not be able to expand into this fishery beyond any level that has been currently established because of the uncertainty of the availability of quota from year to year. New England and Mid-Atlantic fishermen would be positively impacted under this alternative as most of the quota would be available when BFT are offshore northern states.

Further, there could potentially be a slight negative economic impact to the BFT fishery as a whole from this alternative since additional landings beyond December 31 may generate higher prices than the same fish caught at other times in the season. Higher prices for late season fish were particularly evident in the winter 2000 (Table 10), and could be the result of fewer fish on the market as well as higher quality (fat content) of the fish themselves.

Alternative Two: Extend the Last General Category Subperiod through January 31 (preferred) - This alternative could provide the southern Atlantic General category BFT fishery with 31 more days of fishing, provided the quota is not exhausted beforehand (i.e. if landings off New England early in a given fishing year are low, such as in 2003, it is possible that quota would be available later in the year after fish have migrated south). Average General category ex-vessel prices appear to be higher during the late fall and winter (Figure 3); however, there is little historical data from the Fall/Winter time period available for consideration. Any overall changes in gross revenues are difficult to predict because of the variable market and limited information available. Regional gross revenues would be expected to increase for the southern Atlantic General category BFT fishery and decrease for the other regions as available quota increases in

January. For 2003, regional gross revenues are expected to increase for the southern fishery and decrease for other regions relative to the status quo.

Alternative Three: Extend the Last General Category Subperiod through May 31 - This alternative could provide the southern Atlantic General category BFT fishery with six months more of fishing, provided the quota is not exhausted beforehand (i.e. the current slow 2003 landing rate could benefit the southern area fishery under this alternative). It provides the most flexibility for the General category fishery, e.g., if fishing effort was controlled with restricted fishing days or inseason closures, ostensibly the quota could last all season. Any overall changes in gross revenues are difficult to predict because of the variable market and limited information available. Regional gross revenues would be expected to increase for the southern Atlantic General category BFT fishery and decrease for the other regions relative to the status quo as quota available from January through May increases. As with alternative 2, gross revenues for 2003 are expected to increase for the southern fishery and decrease for the other regions relative to the status quo as a result of slow landings. This alternative could provide the greatest positive impact to the south Atlantic area and greatest negative impact to other regions since little opportunity will exist for any unharvested quota to be rolled over into the following year.

6.5.4 Retention of Large medium BFT by Purse Seine and Harpoon Categories

Alternative One: Status Quo/Purse Seine Category Tolerance for 10 Percent Annual Quota and 15 Percent Trip Limit and Harpoon Tolerance of One Large Medium - The primary potential impact of this alternative is the continued inability of the Purse seine and Harpoon categories to catch their annual quota. Although a rollover of quota to the following year is available, continuous rollovers may result in an annual reduction in gross revenues for participating vessels. For example, uncaught quota in the Purse seine category fishery in 2002 equaled 110 MT with an approximate value of \$1,610,253 (using an average price for Purse seine landings in 2002 of \$6.64/lb, Table 14). Uncaught quota for the Harpoon category in 2002 equaled 20.2 MT with an approximate ex-vessel value of \$303,715 (using an average price for Harpoon landings in 2002 of \$6.82/lb, Table 14).

Alternative Two: Remove Purse Seine Category Retention Restriction for 10 Percent of Annual Quota and Maintain 15 Percent Trip Tolerance - The purpose of this alternative is to increase the potential for Purse seine category vessels to harvest their annual quota. Gross revenues should increase relative to recent years when the vessels in this category were unable to harvest the full quota. For the year 2002, gross revenues could have increased by \$1,610,253 (unharvested 2002 quota = 242,508 lbs.) x (avg. price/lb for 2002 Purse seine category catch = \$6.64) if the full quota had been harvested. For 2001, gross revenues would have increased by \$921,970 (unharvested 2001 quota = 134,277 lbs. x avg. price/lb for 2002 Purse seine category catch = \$6.97). Moreover, net expenses for the Purse seine category may be reduced if this alternative succeeds in making the quota more accessible. For example, search time during fishing operations may be reduced if vessels are able to set on mixed schools of large medium and giant BFT. The magnitude of any reduction cannot be estimated with the data currently available. The 15 percent per trip tolerance would be retained under this alternative.

Alternative Three: Remove Purse Seine category Per-trip Tolerance Limit and Increase Annual Tolerance Limit to 15 percent (preferred) - The economic impact for this alternative is very similar to that for the previous alternative; however, this alternative could increase the potential for the Purse seine category to fully harvest its quota by increasing the flexibility for the Purse seine category to moderate their harvest of large medium BFT on an annual basis rather than per trip basis. In addition to potential increased gross revenues, this alternative could provide an increase in net revenues since search time may be reduced as a result of increased flexibility and operations for releasing undersized BFT may be reduced as well. The implementation of a logbook program has been determined to be a negligible economic impact. Implementation of an industry-financed observer program in the future if necessary, would be a short-term negative economic impact; however, the results of the collected data could be used for industry benefit in the future.

Alternative Four: Change Minimum Size for Purse Seine Category to 73" - The economic impacts for this alternative are similar to the previous alternatives but this alternative would further increase the likelihood that the full quota would be landed by providing the most lenient tolerance limit and greatest flexibility. The amount of time spent searching for fish to set on and releasing undersized fish once captured should also be further reduced, increasing overall efficiency and net revenues over the previous alternatives.

Alternative Five: Increase Harpoon Category Tolerance to 2 Fish per Day (preferred) - The economic impact for this alternative is positive since it would provide Harpoon category fishermen the ability to keep two large medium BFT per day which may assist the Harpoon category in harvesting the full quota annually. Ostensibly, the additional large medium BFT that is harvested per trip either would not have been pursued because of its size, or would have been discarded dead. The retention of one additional BFT per day per vessel may generate an increase in gross and net revenues for the Harpoon category. A logbook program has been determined to be a negligible economic impact if implemented. Likewise, if an industry-financed observer program is implemented, it would be a short-term negative economic impact; however, the data collected could be used to benefit the industry in the future.

Alternative Six: Change Minimum Size for Harpoon Category to 73" - This alternative could provide a greater positive economic impact for the Harpoon category than the previous alternatives. Assuming the abundance of large mediums is greater than it has been in the past (Figure 1), this alternative could provide Harpoon category fishermen with decreased search time and a wider universe of fish to purse, which should result in an increase in both gross and net revenues for this category.

Alternative Seven: No Tolerance for Large medium Retention in Purse Seine or Harpoon Category Fisheries - This alternative is expected to decrease the ability of either of these categories to harvest the respective annual quotas, which in turn could result in reductions in both gross and net revenues for these categories.

7.0 REGULATORY IMPACT REVIEW

This section assesses the economic impacts of the alternatives presented in this document. The RIR is conducted to comply with E.O. 12866 and provides analyses of the economic benefits and costs of each alternative to the nation and the fishery as a whole. Certain elements required in an RIR are also required as part of an EA. Thus, this section should be considered only part of the RIR, the rest of the RIR can be found throughout this document. Following this section is an IRFA prepared in accordance with the Regulatory Flexibility Act that analyzes the impacts of the various alternatives on small business entities.

7.1 Description of the Management Objectives

Please see Section 1 for a description of the objectives of this proposed rule.

7.2 Description of the Fishery

Please see Section 3 for a description of the fishery and environment that could be affected by this proposed rule.

7.3 Statement of the Problem

Please see Section 1 for a description of the problem and need for this proposed rule.

7.4 Description of Each Alternative

Please see Section 2 for a summary of each alternative and Section 4 for a complete description of each alternative and its expected ecological, social, and economic impacts.

7.5 Economic Analysis of Expected Effects of Each Alternative Relative to the Baseline.

NOAA Fisheries does not foresee that national net benefits and costs would change significantly in the long term as a result of implementation of the proposed actions. The recommended change to the Purse seine category start date is meant to slightly increase revenues over the baseline and improve gross revenues for sectors of the fishery by staggering the supply of landings on the market. The Harpoon category end date is intended to maintain the regional fishery established by the FMP, and extending the end date for the General category is meant to provide increased opportunities for the fishery over the broadest regional range as well as extend the market temporally to improve gross revenues. Changing the tolerance limits for large medium fish is intended to facilitate the ability of commercial fisheries to attain the quotas established in the HMS FMP. For further information on the expected effects of each alternative, please see section 6.5.

7.6 Conclusion

Under E.O. 12866, a regulation is a "significant regulatory action" if it is likely to: 1) have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; 2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; 3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights, and obligation of recipients thereof; or 4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order. The proposed actions described in this EA/RIR/IRFA and proposed rulemaking do not meet the above criteria. Therefore, under E.O. 12866, the proposed actions described in this document have been determined to be not significant for the purposes of E.O. 12866. A summary of the expected net economic benefits and costs of each alternative can be found in Table 17.

8.0 INITIAL REGULATORY FLEXIBILITY ANALYSIS

8.1 Description of the Reasons Why Action is Being Considered

Please see Section 1 for a description of the reasons why this action is being considered.

8.2 Statement of the Objectives Of, and Legal Basis For, the Proposed Rule

Please see Section 1 for a statement of the objectives and legal basis for the proposed rule.

8.3 Description and Estimate of the Number of Small Entities to Which the Proposed Rule Will Apply

This proposed action would apply to all participants fishing under the Atlantic BFT fishery Harpoon, Purse seine, and General categories, all of which are considered small entities. Table 1 shows the relative proportions of participants in these categories as of August 2003.

8.4 Description of the Projected Reporting, Record-Keeping, and other Compliance Requirements of the Proposed Rule, Including an Estimate of the Classes of Small Entities Which Will Be Subject to the Requirements of the Report or Record

The alternatives do not contain any new collection of information, reporting, record keeping, or other compliance requirements. This action proposes to implement a vessel logbook program for five Purse seine category vessels that has previously been approved under OMB collection 0648-0371.

8.5 Identification of all Relevant Federal Rules Which May Duplicate, Overlap, or Conflict with the Proposed Rule

This proposed rule does not duplicate, overlap, or conflict with any other Federal rules.

8.6 Description of any Significant Alternatives to the Proposed Rule that Accomplish the Stated Objectives of Applicable Statutes and that Minimize any Significant Economic Impact of the Proposed Rule on Small Entities

NOAA Fisheries has prepared this IRFA to analyze the impacts of the alternatives for adjusting the Purse seine category start date, adjusting the Harpoon category end date, adjusting the General category end date, and adjusting the retention limit for large medium BFT in the Purse seine and Harpoon category fisheries, on small entities. These alternatives are described in Sections 2.1, 2.2, 2.3, and 2.4, respectively. The analysis for the IRFA assesses the impacts of the various alternatives on the vessels that participate in the BFT fisheries, all of which are considered small entities. Specifically, these issues affect vessels in the three permit categories listed below. Gross revenues for 2002 and number of permit holders for 2003 for each category are as follows:

<u>Category</u>	<u>Gross Revenue</u>	<u># Permit holders</u>
General	\$13.9 million	6,797
Purse Seine	\$3.0 million	5
Harpoon	\$0.5 million	59

A summary of the IRFA impact assessment for the alternatives considered for each issue is presented below.

Three alternatives were analyzed for adjusting of the Purse seine category start date, including the status quo/no action alternative of an August 15 start date, the preferred alternative of a July 15 start date, and the same start date as all other categories - June 1. These alternatives were evaluated to improve optimum yield and ex-vessel prices for the Purse seine and General categories while minimizing negative impacts to other commercial categories, specifically the Harpoon category. Because of the various factors that affect ex-vessel prices for BFT (i.e., supply, quality, etc.), the exact effect of different Purse seine category season start dates on ex-vessel prices is uncertain. NMFS estimated these impacts by assuming that the amount of product on the market was the primary factor affecting ex-vessel prices. Under the no action alternative, both the General and Purse seine categories appear to be negatively affected by depressed ex-vessel prices which may result from a mid-season (September through mid-October) glut of BFT on the market. However, under this alternative the Harpoon category benefits with higher ex-vessel prices early in the season before the Purse seine category commences on August 15. Opening the Purse seine category on June 1 could shift Purse seine category landings to earlier in the year and result in positive impacts for the Purse seine and General categories by relieving the mid-season market glut and distributing landings more uniformly over the fishing year. However, the Harpoon category could suffer the most negative impacts under this alternative because of the overall net increase in early season landings resulting from the overlap with the Purse seine category fishery season. This overlap would occur during the time period when the Harpoon category traditionally experiences the best ex-vessel prices and on average annually the greatest amount of gross revenue (66%). The preferred alternative of a July 15 start date appears to minimize the negative impacts on the Harpoon category by reducing the amount of overlap with the Purse seine category season relative to Alternative three, while still reducing the mid-season market glut, which should positively impact Purse Seine and General category ex-vessel prices. Increase in overlap with the Harpoon category would be reduced to 30 days during the time period when the Harpoon category gross revenues average approximately 26% of its annual total. Due to the large amount of landings, gross revenues and numbers of participants attributed to the Purse seine and General category commercial BFT sectors, this alternative is expected to provide the greatest positive impacts to the BFT fishery as a whole, even though the smaller Harpoon category may experience slightly negative economic impacts. In addition, it should be noted that any negative impact to the Harpoon category from the preferred alternative could be partially mitigated by the preferred alternative for Issue 2, which would increase the tolerance limit for large medium BFT to two fish per day, in an effort to improve the ability of the Harpoon category to catch its annual quota.

Three alternatives were also considered for the Harpoon category end date. The status quo

alternative would maintain an open Harpoon category season year round, provided there is Harpoon category quota available. Alternative two would close the Harpoon category season on November 15, and alternative three would establish a flexible season end date based on the actual dates of the BFT Fall migration. Alternatives two and three were designed to maintain the Harpoon category quota for the traditional New England fishery and impact only the Harpoon category vessels. The status quo alternative is expected to result in negative impacts for the traditional northern Harpoon category fishery since BFT could be harvested under the Harpoon category quota in areas outside the New England area. In addition, the status quo may encourage the development of, and investment in, a southern area Harpoon category fishery, which has not yet occurred. The second, and preferred alternative, is expected to provide positive impacts for the traditional New England Harpoon category fishery since it would close the fishery near the time period when BFT would migrate out of the New England area. Negative impacts to southern area fishermen interested in participating in the Harpoon category fishery under alternatives two and three are expected to be negligible since there have been no BFT landings against the Harpoon category quota prior to 2002, few vessels have participated in the Harpoon category fishery in the south Atlantic and there has been little investment in gear and equipment in a Harpoon category fishery outside of the New England area. Finally, vessel owners/operators that fish outside the traditional New England area that wish to use a harpoon as a primary gear type would still be allowed to do so under the General category permit, albeit under General category retention limits and restrictions. The third alternative could also provide positive impacts to the traditional New England Harpoon category fishery since it would more closely track the BFT migration, and could eliminate the landing of any BFT under the Harpoon category quota outside of the area of the traditional fishery, but could be difficult to administer.

The General category season is scheduled to end on December 31 of each fishing year or when the General category quota is harvested, whichever comes first. A winter fishery for large medium and giant BFT has existed in the south Atlantic since the early 1990s, and when quota is available, fish have been harvested under the General category. Two alternatives were considered that both extended the General category season to provide southern Atlantic fishermen with more consistent access to the General category BFT quota in the late fall and winter. Alternative two would move the General category end date to January 31 of each fishing year. Overall economic impacts to the General category BFT fishery as a whole would be neutral since the same overall amount and value of the General category quota would be landed and not changed. However, General category fishermen in the northern region may experience negative economic and social impacts since any unharvested quota as of December 31 would have been rolled over to the following year under the status quo alternative. General category fishermen in the southern region would be positively affected by this alternative as it would allow utilization of existing investment in gear and equipment especially if quota was still available for harvest after December 31. Under Alternative three, extending the General category end date to May 31, overall impacts would again be neutral, but northern area General category fishermen could be more negatively affected and southern region fishermen could be more positively affected, depending on the amount of quota that remains after the season would have usually been closed. Alternative two was chosen as the preferred alternative since it minimizes negative impacts to northern area fishermen by providing a more limited southern fishery and provides positive impacts for southern area fishermen by

allowing further utilization of gear and equipment previously invested in a southern area large medium and giant BFT fishery. Impacts could be slightly mitigated if northern area fishermen are willing to travel south late in the season, provided there is reciprocity among different states permitting costs, and out-of-state fishermen are allowed under a coastal state's regulations to participate in a BFT commercial fishery, regardless of whether it occurs in federal or state waters

The Purse seine and Harpoon categories have recently experienced difficulties in landing the full annual quota provided for each of these categories with the result of decreased annual gross revenues. Each of the alternatives associated with this issue modify the tolerance limits for large medium BFT and are analyzed to determine the change in opportunities to harvest the respective quotas in the designated time frames while balancing any ecological impacts of changed fishing mortality and potential dead discards. As NMFS currently has little information on discards for these categories, each preferred alternative for the Harpoon and Purse seine categories respectively include implementation of a previously approved logbook program and the potential for an observer program.

The status quo alternative has had negative economic impacts with a resulting decrease in optimum yield on both the Purse seine and Harpoon categories since they have not been able to land and sell the full allotted quota. Alternatives two, three, and four were all designed to increase access to large medium BFT for the Purse Seine category and to increase the possibility of full quota attainment while balancing the need to control overall mortality and increased pressure on the large medium size class of BFT. Alternative two removes the 10% annual tolerance limit and maintains the 15% trip limit which could increase landings and gross revenue for the Purse seine category. Alternative three (preferred), which eliminates the trip limit and establishes the annual limit at 15%, would provide access to the same total amount of landings as Alternative two, but may also increase net revenues by reducing planning constraints associated with trip limits. Alternative four could provide the greatest increase in access by decreasing the minimum size to 73" (185 cm) for the Purse Seine category; however, it was not chosen as the preferred alternative because of the associated potential negative ecological impact of a relatively large increase in overall BFT mortality with the large medium size class of BFT.

Alternatives five and six were designed to increase access to large medium BFT for the Harpoon category and, (similar to considerations with the Purse seine category), balance concerns regarding attainment of the quota allocation with an increase in mortality and negative ecological impacts. Alternative five would allow an increase in the daily retention limit from the status quo of one large medium BFT per day to two large medium BFT per day, and is preferred as it is expected to provide an acceptable balance between positive economic effects and a modest increase in mortality of large medium BFT. Alternative six would allow full access to the large medium size class by reducing the minimum size limit for the Harpoon category to 73", and would provide the most positive economic impacts. However, it was not chosen because of the potential negative ecological impact of a relatively large increase in mortality on large medium fish. Finally, alternative seven, unlike all other alternatives, would eliminate the tolerance for large medium size class and raise the minimum size of BFT to 81 inches (206 cm). This alternative was considered due to the potential positive ecological impacts that would increase support of western

Atlantic BFT stock rebuilding, but would likely have negative economic and social impacts and further impede full attainment of quota and optimum yield.

9.0 COMMUNITY PROFILES

Section 102(2)(a) of the National Environmental Policy Act requires Federal agencies to consider the interactions of natural and human environments by using “a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences . . . in planning and decision-making.” The Magnuson-Stevens Act also requires consideration of social impacts. Federal agencies should address the aesthetic, historic, cultural, economic, social, or health effects which may be direct, indirect, or cumulative. Consideration of the social impacts associated with fishery management measures is a growing concern as fisheries experience variable participation and/or declines in stocks.

The following towns were identified during the HMS FMP development and are analyzed for social impacts in this action due to the importance of BFT fishing to the community: Gloucester, MA; New Bedford, MA; Barnegat Light, NJ; Brielle/Point Pleasant, NJ; Hatteras, NC; and Wanchese, NC. These communities are discussed in detail in Chapter 9 of the HMS FMP.

The migratory nature of BFT results in differing seasonal availability to these communities, and is the basis for many of the actions considered in this EA. Although overall national impacts are expected to be minimal, impacts will differ among the communities identified above based on the seasonal availability of BFT and the nature of the regional fisheries.

All five Purse seine vessels use Massachusetts ports, and several may unload and use Gloucester and New Bedford as a base of operations. Gloucester is also home port to a Harpoon category fleet of approximately 10 vessels, and many General category vessels. Implementation of an end date for the harpoon category would benefit this regional fishery, as would an increase in availability of large mediums for harvest by the Purse seine and Harpoon category fleets. A change in the Purse seine category start date could be a benefit to the Purse seine category while it may negatively impact Gloucester’s harpoon fleet. Finally, the extension of the General category season could result in a decrease of quota available to Gloucester’s General category fleet and subsequent loss of revenues to the community. A similar impact would affect the New Bedford General category fleet.

Hatteras, North Carolina would primarily be impacted by the extension of the General category season. A longer winter fishery for the General category could allow North Carolina vessels to harvest more of the annual quota and positively impact revenues for fishermen and supporting businesses.

10.0 OTHER CONSIDERATIONS

10.1 Magnuson-Stevens Fishery Management and Conservation Act

The alternatives in this proposed rule would create a management program consistent with the National Standards (NS) set forth in the 50 C.F.R. part 600 regulations.

The alternatives presented in this proposed rule are consistent with NS 1 in that they would be consistent with the Atlantic BFT rebuilding plan recommended by ICCAT and set forth in the HMS FMP. The alternatives considered are based on the best scientific information available (NS 2), including stock assessments coordinated by ICCAT which provide for the management of BFT throughout their ranges (NS 3).

The proposed actions do not discriminate against fishermen in any state (NS 4), nor do they alter the efficiency in utilizing the resource (NS 5). The Harpoon and General category end dates specifically address the interests of New England and south Atlantic states. With regard to NS 6, the proposed actions take into account any foreseeable variations that may occur in the fishery and the fishery resources. NOAA Fisheries considered the costs and benefits of these management measures economically and socially as required by NSs 7 and 8 in Sections 4, 5, and 6 of this document. The proposed actions could serve to further reduce bycatch of undersized BFT in the Purse seine category and Harpoon fisheries. NOAA Fisheries has considered the impact of the proposed actions on protected species and other non-target fish stocks (NS 9). Finally, the proposed actions would not require fishermen to fish in an unsafe manner (NS 10).

10.2 Paperwork Reduction Act

This action does not contain a new collection-of-information requirement for purposes of the Paperwork Reduction Act. This action does propose to implement a previously approved logbook program under OMB 0648-0371 for five Purse seine category vessels.

10.3 E. O. 13132

The proposed rule does not contain regulatory provisions with federalism implications sufficient to warrant preparation of a Federalism Assessment under E.O. 13132.

11.0 CONSIDERATION OF NOAA AND CEQ SIGNIFICANT IMPACT CRITERIA

NOAA Administrative Order 216-6 identifies nine criteria, in addition to the Council on Environmental Quality's (CEQ) regulations at 40 C.F.R. § 1508.27, for determining the significance of the impacts of an action:

- (1) *Can the action be reasonably expected to jeopardize the sustainability of any target species that may be affected by the action?*

This action is not expected to jeopardize the sustainability of BFT, which are the primary target species of operations affected by this action, because the management program is well within the constraints of ICCAT's western Atlantic BFT rebuilding plan.

- (2) *Can the action be reasonably expected to jeopardize the sustainability of any non-target species?*

The action is not expected to jeopardize the sustainability of any non-target finfish species. All actions in the proposed rule address directed BFT fisheries, and are not expected to result in substantial increase in effort, and may decrease effort. Therefore, the proposed rule should not substantially alter non-target catches, bycatch, or bycatch mortality. Rebuilding plans, as appropriate, and fishing controls are already in place for non-target species. The over-arching goal of the HMS FMP is to implement rebuilding plans to reduce directed or bycatch mortality rates for overfished stocks and to manage healthy stocks for the optimum yield. Measures established to reduce bycatch and bycatch mortality are discussed in Section 3.5 of the HMS FMP.

- (3) *Can the action be reasonably expected to allow substantial damage to the ocean and coastal habitats and/or essential fish habitat (EFH) as defined under the Magnuson-Stevens Act and identified in FMPs?*

Because this action is not expected to change BFT fishing effort, this action is not expected to change the impact on EFH or to allow substantial damage to ocean and coastal habitats and/or EFH. Further, the effects of this action would not apply to any sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause loss or destruction of significant scientific, cultural or historical resources. Should such structures or resources be located in the Exclusive Economic Zone (EEZ), vessels would already avoid those areas to avoid potential gear loss.

- (4) *Can the action be reasonably expected to have a substantial adverse impact on public health and safety?*

The action is not expected to have substantial adverse impacts on public health and safety.

- (5) *Can the action be reasonably expected to have an adverse impact on endangered or threatened species, marine mammals, or critical habitat of these species?*

The action is not expected to alter current impacts on threatened or endangered species. The action would not substantially modify fishing behavior, effort, or gear usage. HMS gear types addressed by this rule do not encounter or interact with sea turtles or marine mammals to any substantial degree.

- (6) *Can the action be reasonably expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?*

The action is not expected to result in cumulative adverse effects that could have a substantial effect on target species or non-target species. This action would be consistent with ongoing implementation of rebuilding plans for western Atlantic BFT and the objectives of the HMS FMP. The action is not expected to significantly change current fishing practices. Preferred alternatives that provide greater flexibility for the Harpoon and Purse seine fisheries to retain large medium BFT may decrease fishing effort. Extending the end date of the General category may result in a proportional increase of effort in the handgear fishery in the South Atlantic than it has been in the past but with potentially a corresponding decrease off northern Atlantic states.

- (7) *Can the action be reasonably expected to have a substantial impact on biodiversity and ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?*

The action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area, because the action is not expected to change fishing mortality significantly since it is within the bounds of the ICCAT rebuilding plan for Western Atlantic BFT. Fishing effort is expected to remain the same, although it may be slightly geographically redistributed with an increase in the South Atlantic. The action would not affect unique habitats. In addition, this action would not introduce or spread non-indigenous species.

- (8) *Are significant social or economic impacts interrelated with significant natural or physical environmental effects?*

The action is not expected to have any significant, positive or negative, social or economic impacts. The preferred action is expected to have modest positive social and economic impacts by improving market conditions for BFT Purse seine category fishermen and improving access to the allocated quota for Purse seine category and Harpoon category fishermen. Slight negative economic impacts are expected to vessels in the Harpoon category which maybe mitigated somewhat by relaxing the tolerance limits and allowing greater opportunities to attain available quota. This action is not expected to have any significant environmental effects, as described above.

- (9) *To what degree are the effects on the quality of the human environment expected to be highly controversial?*

The effects of the final action on the human environment are not expected to be highly controversial. There are no highly uncertain effects associated with this action due to the fact that the BFT fishery has been in operation for years and the proposed actions are well within the bounds of ICCAT recommendations implementing the ICCAT rebuilding plan for Western BFT. This action would not implement any new impacts on State regulations, regulations outside the Exclusive Economic Zone (EEZ), or laws applicable to the EEZ.

12.0 LIST OF PREPARERS

This EA/RIR/IRFA was prepared by Dianne Stephan, Brad McHale, Mark Murray-Brown, Margo Schulze-Haugen, and Christopher Rogers from the HMS Management Division, Office of Sustainable Fisheries. Please contact the HMS Management Division, Northeast Regional Office, for a complete copy of current regulations for the Atlantic tunas fisheries.

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13.0 LIST OF AGENCIES AND PERSONS CONSULTED

Discussions relevant to the formulation of the preferred alternatives and the analyses for this EA/RIR/IRFA involved input from several NOAA Fisheries components and constituent groups, including: NOAA Fisheries Southeast Fisheries Science Center, NOAA Fisheries Northeast Regional Office, NOAA Fisheries Enforcement, and the members of the HMS and Billfish APs (includes representatives from the commercial and recreational fishing industries, environmental and academic organizations, state representatives, and fishery management councils). NOAA Fisheries has also received numerous comments from individual fishermen and other interested parties.

14.0 TABLES

Table 1: Number of Atlantic HMS and Atlantic Tunas Permits and Base Quotas

Category	Number of Permits	2003 Baseline Quota (mt)
General	6,797	690
Harpoon	59	57
Purse Seine	5	272
Incidental Longline	232	144
Incidental Trap	5	2
HMS Angling (Recreational)	15,444	289
HMS Charter/Headboat	3,993	(General/or HMS Angling)
Total	26,535	1,490

Table 2: Summary of patterns of fishing activities directed at BFT in the United States

Gear	Area	Size of fish	Season
Handline, Harpoon, and Rod and Reel	Cape Cod Bay and Gulf of Maine	Giant	<i>June-November</i>
		Large School/ Small Medium	<i>August-October</i>
		Large School/ Small Medium	<i>Summer (unpredictable)</i>
	Cape Hatteras to Cape Cod	Large School/ Small Medium	<i>June-October</i>
		Large School/ Small Medium	<i>June-October</i>
		Large Medium and Giant	<i>January-March</i>
	Gulf of Mexico	Giant	<i>January-June</i>
Purse Seine	Cape Hatteras to Cape Cod	Large Medium and Giant	<i>August-October</i>
	Cape Cod Bay	Large Medium and Giant	<i>August-October</i>

Table 3: BFT landings for the General, Harpoon and Purse Seine categories from 1996 to 2002 (metric tons),

CATEGORY	1996	1997	1998	1999*	2000	2001	2002
General	575	679	706	714	725	933	898
Harpoon	58	53	60	59	53	68	40
Purse Seine	245	250	248	247	275	196	208

* Note: Starting with the implementation of the HMS FMP in 1999, BFT are managed on a fishing year basis versus a calendar year basis.

Table 4: Average landings for General, Harpoon and Purse Seine categories from 1998 through 2002, by metric ton and percent, over two-week time intervals

Time Period	Average Landings (lbs) By Category						
	General	%	Harpoon	%	Purse Seine	%	Total
01-15 Jun	9,166	0.5	24,953	20.1			34,119
16-30 Jun	20,151	1.3	28,251	22.8			48,402
01-15 Jul	87,097	4.9	32,004	25.8			119,101
16-31 Jul	170,222	9.7	17,701	14.3	8,731*	1.6	196,654
01-15 Aug	163,414	9.3	6,148	5.0	27,018*	5.0	196,580
16-31 Aug	138,485	7.9	8,844	7.1	132,922	24.4	280,251
01-15 Sep	270,012	17.4	5,377	4.3	165,355	30.4	440,744
16-30 Sep	266,312	15.1	561	0.5	139,442	25.6	406,315
01-15 Oct	359,132	20.4			69,045	12.7	428,177
16-31 Oct	155,037	8.8			1,326	0.2	156,363
01-15 Nov	4,431	0.2	126	0.1			4,557
16-30 Nov	22,438	1.2					22,438
01-15 Dec	40,015	2.2					40,015
16-31 Dec	6,990	0.3	154	0.1			7,144

* Landings by Purse seine vessels prior to August 15 allowed pursuant to Exempted Fishing Permits in 2002.

Table 5. Harpoon category gross revenues by biweekly time period, 1998 to 2002

Time Period	Gross Revenue						
	1998	1999	2000	2001	2002	Average	%
01-15 Jun	116,095	33,226	322,031	79,952	108,908	132,042	15.7
16-30 Jun	101,359	222,463	559,628	102,728	162,823	229,800	27.5
01-15 Jul	55,828	434,796	0	143,195	126,575	152,079	18.2
16-31 Jul	0	618,393	0	151,449	80,218	170,012	20.3
01-15 Aug	0	0	0	130,328	122,750	50,616	6.1
16-31 Aug	0	0	0	291,466	22,097	62,713	7.5
01-15 Sep	0	2,020	0	158,126	15,933	35,216	4.2
16-30 Sep	0	0	0	1,503	13,129	2926	0.4
01-15 Oct	0	0	0	0	0	0	0
16-31 Oct	0	0	0	0	0	0	0
01-15 Nov	0	0	0	3,966	1,540	1,101	0.1
16-30 Nov	0	0	0	0	0	0	0
01-15 Dec	0	0	0	0	0	0	0
16-31 Dec	0	0	0	0	3,148	630	0.1

Table 6. Harpoon category landings and average ex-vessel price by State, 1998 to 2002.

State	1998		1999		2000		2001		2002	
	Landings (LBS)	\$/LB	Landings (LBS)	\$/LB	Landings (LBS)	\$/LB	Landings (LBS)	\$/LB	Landings (LBS)	\$/LB
MA	110,519	5.65	104,637	8.10	80,491	6.33	117,953	6.56	59,826	6.01
ME	21,574	5.94	25,261	10.63	37,400	6.60	32,038	6.58	28,382	5.95
NC	0	0	0	0	0	0	0	0	1,043	4.60

Table 7: ***Predicted*** average bimonthly landings for the General, Harpoon and Purse Seine categories assuming a Purse Seine category start date on July 15. Estimates were derived by shifting actual bimonthly Purse Seine landings (Table 4) up by two biweekly time periods and eliminating 2002 Purse Seine landings under an EFP prior to August 15.

Time Period	<i>PREDICTED</i> Average Landings (LBS.) By Category			
	General	Harpoon	<i>Purse Seine</i>	Total
01-15 Jun	9166	24,953		34,119
16-30 Jun	20,151	28,251		48,402
01-15 Jul	87,097	32,004		119,101
16-31 Jul	170,222	17,701	<i>132,922</i>	320,845
01-15 Aug	163,414	6,148	<i>165,355</i>	334,917
16-31 Aug	138,485	8,844	<i>139,442</i>	286,771
01-15 Sep	270,012	5,377	<i>69,045</i>	344,434
16-30 Sep	266,312	561	<i>1,326</i>	268,199
01-15 Oct	359,132			359,132
16-31 Oct	155,037			155,037
01-15 Nov	4,431	126		4557
16-30 Nov	22,438			22,438
01-15 Dec	40,015			40,015
16-31 Dec	6,990	154		7144

Table 8. ***Predicted*** average bimonthly landings for the General, Harpoon and Purse Seine categories assuming a Purse Seine category start date on June 1. Estimates were derived by shifting actual bimonthly Purse Seine landings (Table 4) up by five biweekly time periods and eliminating 2002 Purse Seine landings under an EFP prior to August 15.

Time Period	<i>PREDICTED</i> Average Landings (LBS.) By Category			
	General	Harpoon	<i>Purse Seine</i>	Total
01-15 Jun	9166	24,953	<i>132,922</i>	167,041
16-30 Jun	20,151	28,251	<i>165,355</i>	213,757
01-15 Jul	87,097	32,004	<i>139,442</i>	258,543
16-31 Jul	170,222	17,701	<i>69,045</i>	256,968
01-15 Aug	163,414	6,148	<i>1,326</i>	170,888
16-31 Aug	138,485	8,844		147,329
01-15 Sep	270,012	5,377		275,389
16-30 Sep	266,312	561		266,873
01-15 Oct	359,132			359,132
16-31 Oct	155,037			155,037
01-15 Nov	4,431	126		4,557
16-30 Nov	22,438			22,438
01-15 Dec	40,015			40,015
16-31 Dec	6,990	154		7,144

Table 9. General category landings in North Carolina by month from 1998 to 2002 and estimated value based on average ex-vessel prices per year (Table 14).

Year	Month	Landings (LBS)	Annual Estimated Value
1998	June	903	\$1,052
	July	1,120	
1999	June	3,490	\$25,994
	July	261	
2000	November	34,482	\$1,064,666
	December	78,062	
2001	June	5,359	\$714,854
	July	410	
	November	87,676	
2002	June	995	\$1,105,193
	November	270	
	December	156,170	

Table 10: Average monthly prices (per pound, round weight) for Atlantic bluefin tuna in the General Category, 1996-2002*

	June	July	August	September	October	November	December
2002	\$6.70	\$7.50	\$7.78	\$5.55	\$7.86	\$5.35	\$7.48
2001	\$5.49	\$8.13	\$7.53	\$8.12	\$7.71	\$6.22	--
2000	\$9.27	\$13.36	\$9.22	\$9.14	\$8.74	\$8.82	\$11.69
1999	\$5.84	\$8.55	\$6.66	\$6.79	\$6.50	--	--
1998	\$7.31	\$4.99	\$4.80	\$4.94	\$6.09	\$10.38	--
1997	\$7.16	\$6.83	\$7.79	\$7.04	\$8.09	--	--
1996	\$7.81	\$7.86	\$8.55	\$8.33	\$9.97	\$15.26	--

Table 11: Total General category BFT landed by size category for 2000-2002.

Year	Size Class	Landings			
		Number of Fish	% Number	Weight of Fish	% Weight
2000	Large-medium	380	11	49.5	7
	Giant	3102	89	675.5	93
2001	Large-medium	851	19	91.5	10
	Giant	3570	81	829.4	90
2002	Large-medium	1110	23	120.5	12
	Giant	3813	77	901.8	88

Table 12. *Predicted* number of BFT that could be harvested under each alternative with adjustment of size tolerances in Purse Seine and Harpoon categories (Issue Four). Estimates are determined by dividing the maximum allowed quota under each alternative for both size classes by the respective average size for each size class. Average sizes were determined from General category 2002 landings data. Quotas are based on the 2003 baseline quota for the Harpoon (57.1 mt or 125,884 lbs) and Purse seine (272.4 mt or 600,539 lbs) categories.

Alternative	Large Mediums (Avg. size = 239 lbs)					Giants (Avg. size = 521 lbs.)					Total (No. BFT)
	Harpoon Category		Purse Seine Category		Sub- Total	Harpoon Category		Purse Seine Category		Sub- Total	
	% of 125,844 lb Quota	No. BFT	% of 600,539 lb Quota	No. BFT		% of 125,844 lb Quota	No. BFT	% of 600,539 lb Quota	No BFT.		
1 - No Action	¹ 26%	137	10%	251	388	74%	179	90%	1037	1216	1604
2 - PS 15%/Trip	26%	137	15%	376	513	74%	179	85%	980	1159	1672
3 - PS 15%/Yr (Pref)	26%	137	15%	376	513	74%	179	85%	980	1159	1672
4 - PS 73" min	26%	137	100%	2513	2650	74%	179	0%	0	179	2829
5 - HP 2/day (Pref)	² 52%	274	10%	251	525	48%	115	90%	1037	1152	1677
6 - HP 73" min	100%	527	10%	251	778	0%	0	90%	1037	1037	1815
7 - HP & PS 81" min	0%	0	0%	0	0	100%	242	100%	1152	1394	1394

¹2002 Harpoon category landings were comprised of approximately 26% large mediums (by weight) and 74% giants (by weight). This percentage was applied to estimate future landings.

²Since 2002 Harpoon category landings at 1 fish/day resulted in landings of 26% large medium BFT, it is estimated that 2/fish day would result in twice as many large medium landings.

Table 13. Comparison of Impacts of Alternatives

Alternative	Ecological Impacts BFT	Ecological Impacts other fish species	Protected Species	Economic Impacts	Social Impacts	Administrative/ Legal/EJ/CZMA Considerations
Issue 1: PURSE SEINE CATEGORY START DATE						
1.1 No Action - Start August 15	Neutral	Neutral	Neutral	Negative to majority of commercial fishery overall (i.e. GC & PS). Positive for HP	Same as economic impacts	None
1.2 Change To July 15 - <i>Preferred Alternative</i>	Neutral	Neutral	Neutral	Positive for fishery overall, particularly GC & PS; minimizes negative impacts for HP	Same as economic impacts	None
1.3 Change to June 1	Neutral	Neutral	Neutral	Most positive for GC & HP; most negative for HP	Same as economic impacts	None
Issue 2: HARPOON CATEGORY END DATE						
2.1 No Action - Closes when quota attained or May 31	Neutral	Neutral	Neutral	Overall Neutral.	Negative for traditional New England fishermen; positive for southern region fishermen	Potentially inconsistent with HMS FMP
2.2 Close on November 15 - <i>Preferred Alternative</i>	Neutral	Neutral	Neutral	Overall Neutral. Minimal to zero negative impacts to southern area Harpoon fishermen as little investment in HP gear. Plus, participation in GC with harpoon gear still available.	Positive for traditional New England fishermen; minimizes negative impacts for southern region fishermen	Consistent with HMS FMP (maintains traditional HP fishery in New England area)
2.3 Establish Flexible Season	Neutral	Neutral	Neutral	Overall Neutral. As above	Most positive for traditional New England fishery; most negative for southern region fishermen.	Greatest administrative costs for NOAA Fisheries; consistent with HMS FMP

Table 13 (Cont.)

Alternative	Ecological Impacts BFT	Ecological Impacts other fish species	Protected Species	Economic Impacts	Social Impacts	Administrative/ Legal/EJ/CZMA Considerations
Issue 3: GENERAL CATEGORY (GC) SEASON END DATE						
3.1 No Action - Closes when quota attained or December 31st	Neutral	Neutral	Neutral	May have slight negative impact to southern area fishermen	Most positive for northern area fishermen & most negative for southern area fishermen	None
3.2 Extend 3 rd GC subperiod through January 31 st - <i>Preferred alternative</i>	Neutral	Neutral	Neutral	Provides use of current investment by southern area fishermen	Minimizes negative impacts for northern area fishermen while providing positive impacts for southern area fishermen	None
3.3 Extend 3 rd GC subperiod through May 31st	Neutral	Neutral	Neutral	May cause expansion of investment in southern area fishery.	Most negative for northern area fishermen and most positive for southern area fishermen	None
3.4 Change 2 nd and 3 rd subperiod dates - <i>deferred</i>	N/A	N/A	N/A	N/A	N/A	Beyond scope of current action

Table 13 (cont.)

Issue 4: RETENTION OF LARGE MEDIUM BFT BY PURSE SEINE (PS) AND HARPOON (HP) CATEGORIES						
Alternative	Ecological Impacts BFT	Ecological Impacts other fish species	Protected Species	Economic Impacts	Social Impacts	Administrative/ Legal/EJ/CZMA Considerations
4.1 No action -No change to current tolerance limits	Overall neutral - no change in quota; dead discards could increase minimally if effort increases (i.e. to catch quota); lower potential impact on immature BFT than all other Alternatives (except 4.7)	Minimal negative impacts (bycatch) if increase in effort to catch quota	Minimal negative impacts if increase in effort to catch quota	Negative for PS and HP	Same as economic impacts	None
4.2 Remove PS Restriction regarding 10% of Annual Vessel Quota	Minimizes potential negative impact with minor (4%) increase in large medium landings	Any minimal increase in negative impacts could be less than 4.1	Any (minimal) increase in negative impacts could be less than 4.1	Positive for PS	Same as economic impacts	None
4.3 Remove PS Trip Restriction and Change Annual Vessel Quota to 15% - <i>Preferred Alternative</i>	Same as 4.2	Any minimal increase in negative impacts could be less than 4.1 or 4.2	Any (minimal) increase in negative impacts could be less than 4.1 or 4.2	More positive for PS without trip limit	Same as economic impacts	Slight change in enforcement and monitoring oversight and administration
4.4 Change PS Minimum Size Limit to 73"	Potential negative impact with 5 times more large-medium landings than 4.1	Greatest potential for reduction of minimal negative impacts compared to 4.1-4.3	Minimal negative impacts could be further reduced from 4.1	Most positive for PS	Most positive for PS; other categories may perceive inequity with magnitude of increased PS access	Potential issues with -ve impacts to ICCAT rebuilding plan and HMS FMP

Alternative	Ecological Impacts BFT	Ecological Impacts other fish species	Protected Species	Economic Impacts	Social Impacts	Administrative/ Legal/EJ/CZMA Considerations
4.5 Increase HP Daily Bag Limit to 2 Large Medium BFT - <i>Preferred Alternative</i>	Minimizes potential negative impact with minor (4%) increase in large medium landings	Neutral	Neutral	Positive for HP	Same as economic	None
4.6 Change HP Minimum Size Limit to 73"	Potential negative impact with 10% more large medium landings than 4.1	Neutral	Neutral	Most positive for HP	Most positive for HP; other categories may perceive inequity with magnitude of increased HP access	Conflict with HMS FMP intent to focus commercial fisheries on mature BFT
4.7 No Tolerance for PS or HP Retention of Large Medium BFT	Potential positive impact with no harvest of large medium (potentially some immature) BFT. Discards undersized BFT may increase (i.e. below 81").	Minimal negative impacts (bycatch) could increase with increasing effort to catch quota	Minimal negative impacts could increase minimally with increasing effort to catch quota	Most negative for HP and PS	Most negative for HP and PS	Fully supports HMS FMP objective of focusing commercial fisheries on mature BFT

Table 14: Ex-vessel average prices (per pound, round weight) for BFT by commercial fishing category, 1996-2002.

Category	1996	1997	1998	1999	2000	2001	2002
General	\$8.71	\$7.23	\$5.20	\$6.93	\$9.46	\$7.65	\$7.02
Harpoon	\$7.69	\$8.09	\$5.92	\$9.10	\$7.05	\$7.42	\$6.82
Incidental	\$4.79	\$4.94	\$5.06	\$5.47	\$5.89	\$5.74	\$5.05
Purse Seine	\$8.61	\$8.32	\$6.01	\$6.75	\$7.22	\$6.97	\$6.64

Table 15: Average annual ex-vessel price for large-medium and giant BFT landed in the General, Harpoon, and Purse seine categories from 1998-2002.

YEAR	General		Harpoon		Purse Seine	
	Large-medium (\$/lb)	Giant (\$/lb)	Large-medium (\$/lb)	Giant (\$/lb)	Large-medium (\$/lb)	Giant (\$/lb)
1998	5.21	4.90	5.80	5.51	5.82	5.78
1999	6.40	6.49	7.56	7.53	6.16	6.36
2000	8.47	8.34	5.50	6.25	6.45	6.59
2001	6.13	6.86	7.04	6.16	6.32	6.17
2002	5.93	6.20	6.17	5.96	5.30	5.87

Table 16: Ex-vessel gross revenues in the U.S. Atlantic bluefin tuna fishery for the General, Harpoon and Purse Seine fishing categories, 1996-2002.

Year	General	Harpoon	Purse Seine
2002	\$13,948,190	\$588,884	\$3,066,034
2001	\$15,883,631	\$1,089,423	\$3,011,046
2000	\$15,027,728	\$824,636	\$4,383,679
1999	\$10,470,014	\$1,185,947	\$3,671,460
1998	\$7,763,996	\$743,666	\$3,285,014
1997	\$10,808,589	\$939,322	\$4,579,361
1996	\$10,781,387	\$919,717	\$4,445,852

Table 17: Summary of expected net economic benefits and costs of alternatives.

Alternative	Net Economic Benefits	Net Economic Costs
Issue 1: BFT PURSE SEINE (PS) CATEGORY START DATE		
1.1 No Action - Start Date August 15	No benefits for PS or GC; potential Harpoon category (HP) benefits in early season high ex-vessel prices.	Potential costs for General category (GC) & PS in depressed ex-vessel prices possibly from mid-season market glut.
1.2 Change To July 15 - <i>Preferred Alternative</i>	Potential PS & GC benefits in increased ex-vessel prices from reduced mid-season market glut while potentially minimizing costs for HP relative to 1.3.	Potential costs for HP in depressed ex-vessel prices from <i>partial</i> overlap with PS landings. Minimized relative to full overlap in 1.3.
1.3 Change to June 1	Maximum relative potential GC & PS benefits in increased ex-vessel prices and consistent distribution of landings throughout season.	Maximum relative potential costs for HP in depressed ex-vessel prices and overall reduced gross revenues from <i>complete</i> overlap with PS season.
Issue 2: HARPOON CATEGORY (HP) END DATE		
2.1 No Action - Closes When Quota Attained or May 31	Minor potential benefits to southern area fishermen with access to HP quota after BFT Fall migration.	Costs for traditional HP fishery in New England area if quota is not harvested prior to BFT Fall migration.
2.2 Close on November 15 - <i>Preferred Alternative</i>	Maximizes overall benefits by retaining access to quota almost exclusively for traditional HP fishery (which supports the HMS FMP) and minimizing administrative costs to NOAA Fisheries. Southern area operators wishing to use harpoon could still do so in GC.	Minimal to zero costs for potential southern area Harpoon category fishermen as no major investment in gear or equipment.
2.3 Establish Flexible Season	Maximizes benefits for traditional HP fishery by establishing exclusive access to quota.	Maximizes administrative costs to NOAA Fisheries to monitor and manage. Similar minimal costs to southern area Harpoon fishermen as 2.2 above.
Issue 3: GENERAL CATEGORY (GC) SEASON END DATE		

3.1 No Action - Closes When Quota Attained or Dec. 31	Maximum benefits for northern area GC fishermen.	Maximum costs to southern area GC fishermen.
3.2 Extend 3 rd GC Subperiod through Jan. 31 - <i>Preferred</i>	Potential benefit for southern area fishermen while minimizing costs to northern area fishermen.	Potentially minimizes costs for northern area fishermen while benefitting southern area fishermen.
3.3 Extend 3 rd GC Subperiod through May 31	Potential maximum benefit to southern area fishermen.	Potential maximum costs to northern area fishermen.
3.4 Alter 2 nd and 3 rd Subperiod Dates - <i>Deferred</i>	N/A	N/A
Issue 4: RETENTION OF LARGE MEDIUM BFT BY PURSE SEINE (PS) AND HARPOON (HP) CATEGORIES		
4.1 No Action -No Change to Current Tolerance Limits	No economic benefits.	Costs to PS and HP in inability to harvest annual quota and sell BFT that would otherwise have to be discarded.
4.2 Remove PS Restriction 10% of Annual Vessel Quota	Benefit for PS for selling large medium BFT with potential increase in ability to harvest quota.	None.
4.3 Remove PS Trip Restriction and Change Annual Vessel Quota to 15 - <i>Preferred</i>	Increased benefit for PS relative to 4.2 by increasing flexibility in operations and potential increase in ability to harvest quota.	None.
4.4 Change PS Minimum Size Limit to 73"	Maximum benefit for PS by full access to large medium BFT and potential increase in ability to harvest quota.	Potential long-term cost with negative impact to stock recovery and long term fishing opportunities
4.5 Increase HP Daily Bag Limit to 2 Large Medium BFT - <i>Preferred</i>	Benefit for HP by increase in tolerance limit for selling large medium BFT with potential increase in ability to harvest annual quota.	None.
4.6 Change HP Minimum Size Limit to 73"	Maximum benefit for HP by full access to large medium BFT and potential increase in ability to harvest annual quota.	Slight potential long-term cost with negative impact to stock recovery and long term fishing opportunities.
4.7 No Tolerance for PS or HP Retention of Large Medium	No direct economic benefits. Slight potential long-term positive impact with assistance to stock recovery by focusing fishery entirely on BFT that have spawned at least once.	Costs for PS and HP as potential inability to harvest annual quotas.

15.0 FIGURES

Figure 1:
Figure 1a:

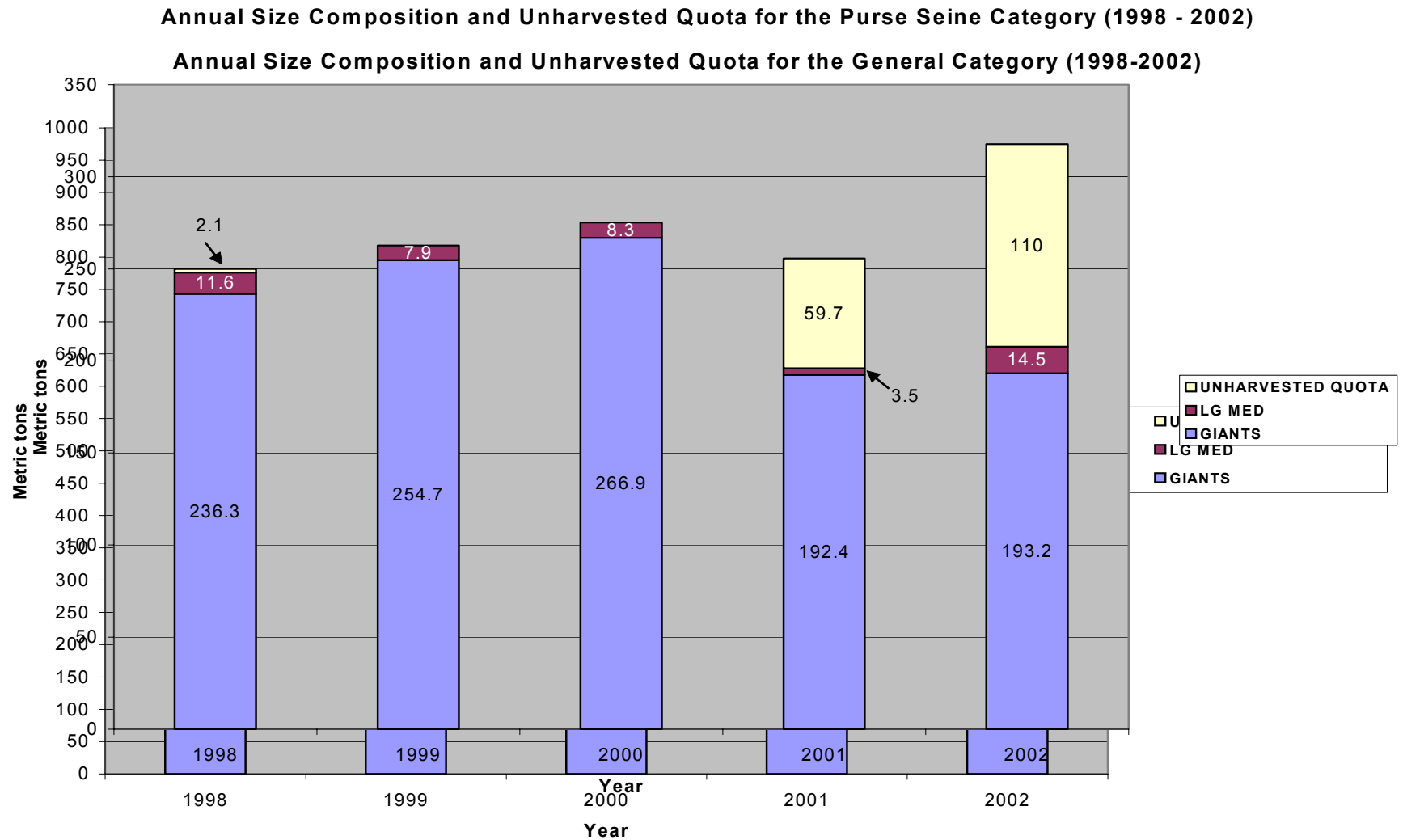


Figure 1b:

Figure 2:

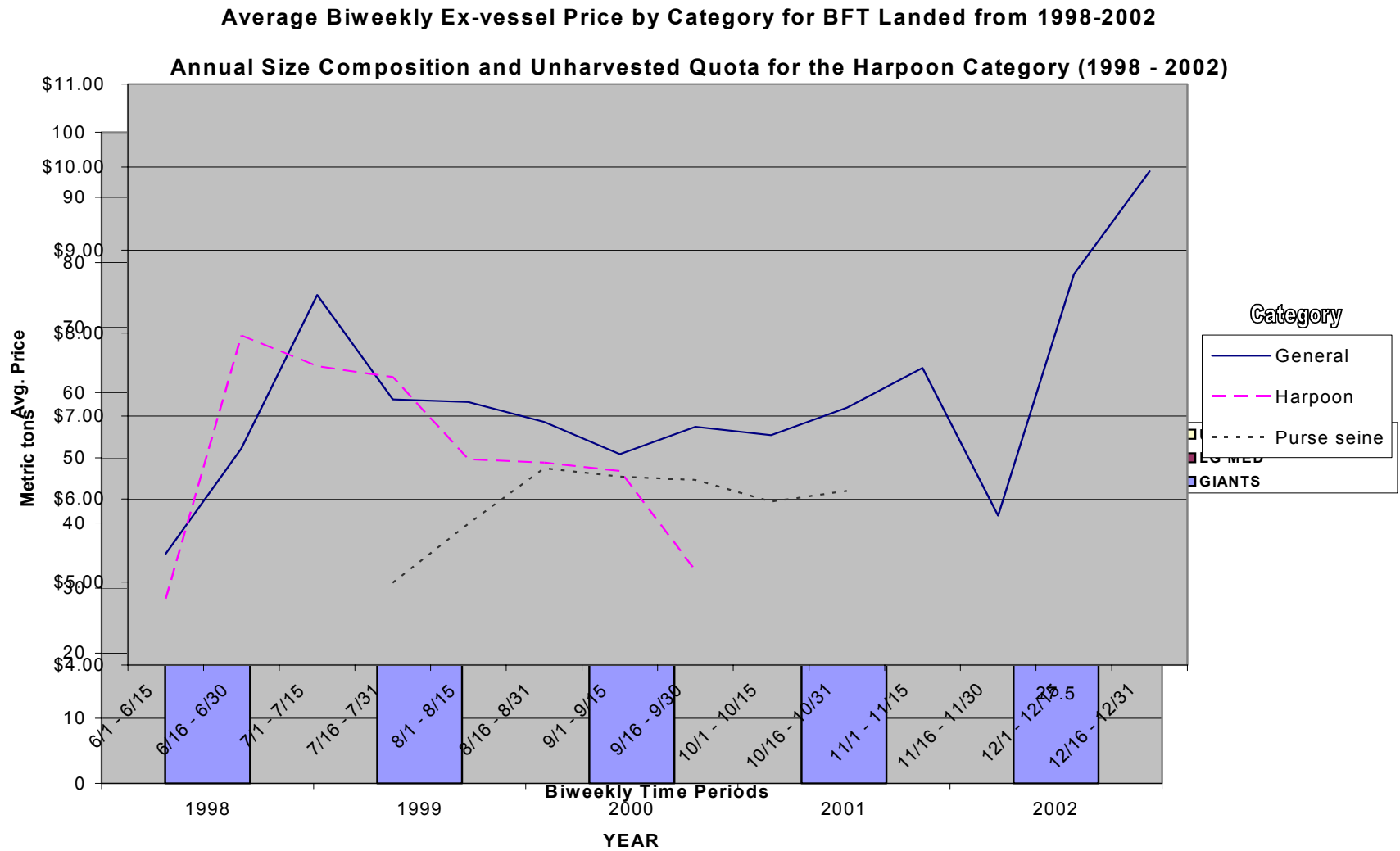


Figure 3:

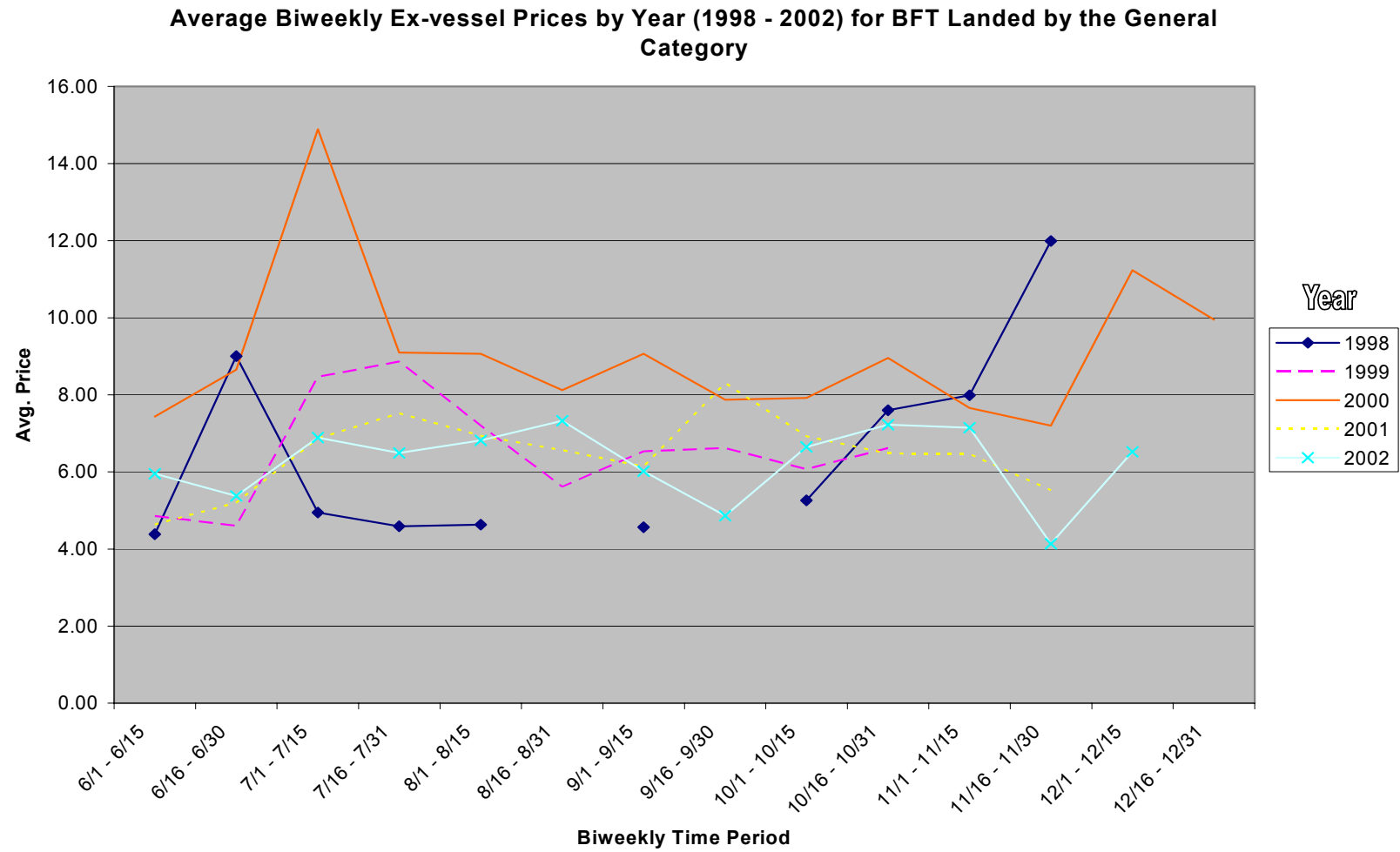


Figure 4:

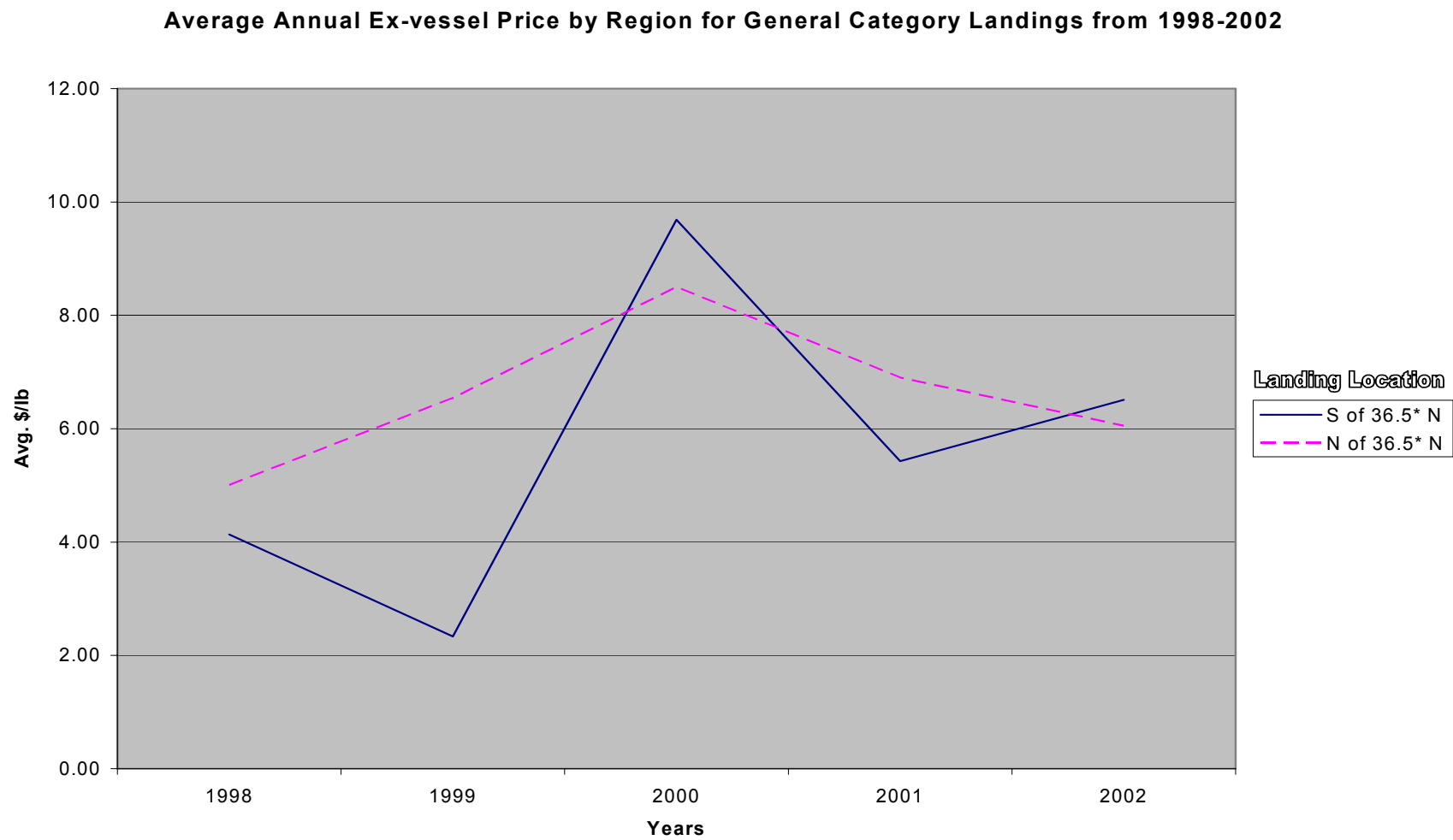


Figure 5:

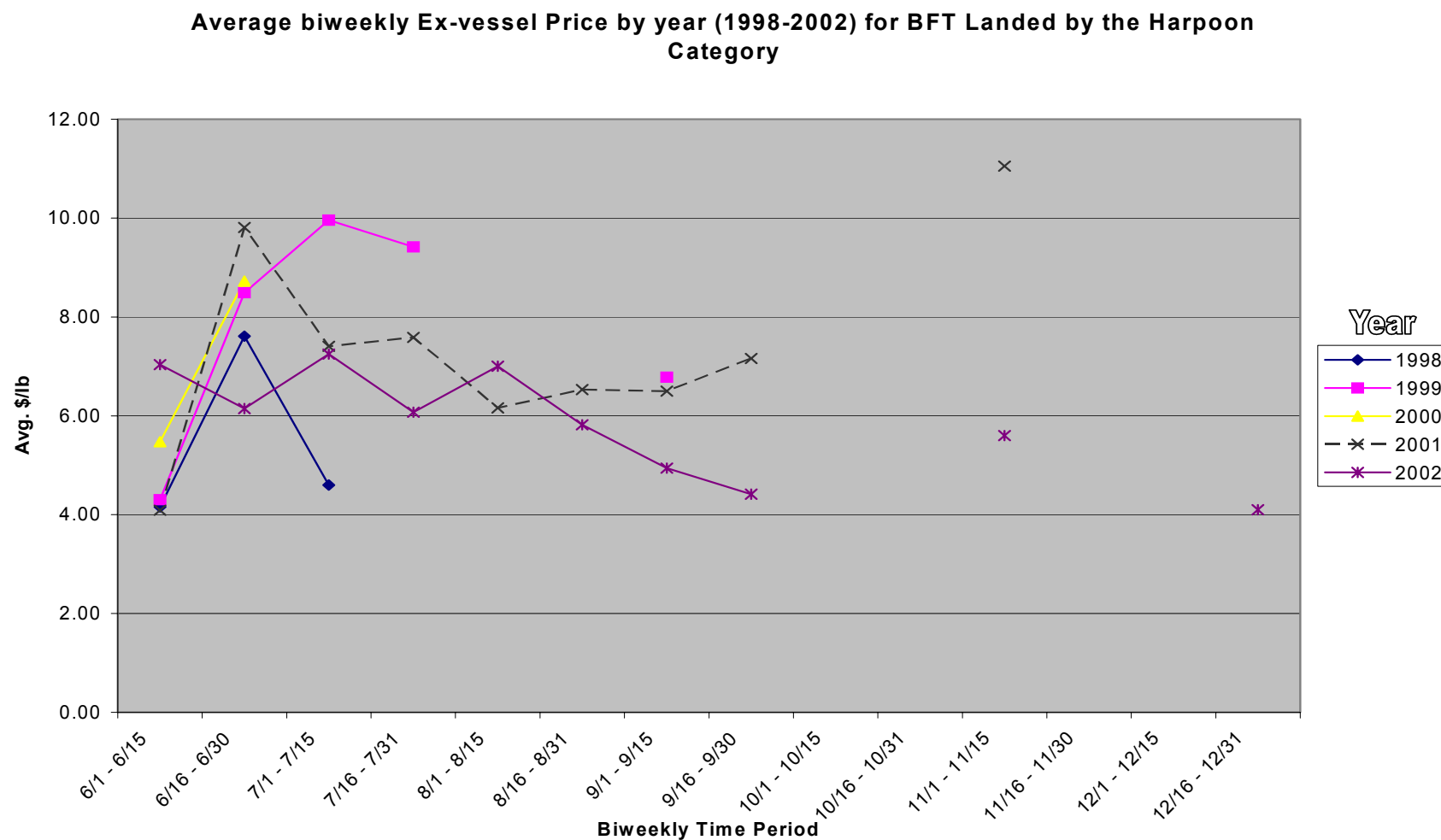


Figure 6:

